

**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

Prepared for:

**U.S. Environmental Protection Agency  
Region VI  
1445 Ross Avenue  
Dallas, Texas 75202**

Contract No.: 68-W9-0015  
Work Assignment No.: 23-6JZZ  
Document Control No.: 04603-023-0260

Prepared by:

**Roy F. Weston, Inc.  
Houston, Texas**

11 August 1994



139094

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TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**SIGNATURE PAGE**

\_\_\_\_\_  
Stacey Bennett  
U.S. Environmental Protection Agency  
Work Assignment Manager

\_\_\_\_\_  
Date

*Bay E. Dorman*

*8/11/94*

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John D. DiFilippo, P.E.  
Roy F. Weston, Inc.  
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Site Manager

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Roy F. Weston, Inc.  
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\_\_\_\_\_  
Date

*Jeff S. Wormser*

*8/11/94*

\_\_\_\_\_  
Jeff S. Wormser  
Roy F. Weston, Inc.  
Project Team Leader

\_\_\_\_\_  
Date

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**TABLE OF CONTENTS**

<b>SECTION</b>	<b>TITLE</b>	<b>PAGE</b>
1	INTRODUCTION . . . . .	1-1
1.1	PURPOSE OF THE INVESTIGATION . . . . .	1-1
1.2	SCOPE OF WORK . . . . .	1-1
1.3	WORK PLAN ORGANIZATION . . . . .	1-3
2	SITE BACKGROUND INFORMATION . . . . .	2-1
2.1	SITE LOCATION AND DESCRIPTION . . . . .	2-1
2.2	SITE HISTORY . . . . .	2-3
2.3	SUMMARY OF PREVIOUS INVESTIGATIONS . . . . .	2-3
2.4	WASTE SOURCE CHARACTERISTICS AND SITE CONCERNS . . . . .	2-4
	2.4.1 Waste Source Characteristics . . . . .	2-4
	2.4.2 Site Concerns . . . . .	2-4
3	EXPOSURE AND MIGRATION PATHWAY CHARACTERISTICS . . . . .	3-1
3.1	GROUNDWATER PATHWAY . . . . .	3-1
	3.1.1 Hydrogeologic Description . . . . .	3-1
	3.1.2 Likelihood to Release . . . . .	3-1
	3.1.3 Groundwater Pathway Targets . . . . .	3-1
3.2	SURFACE WATER PATHWAY . . . . .	3-1
	3.2.1 Hydrologic Setting . . . . .	3-2
	3.2.2 Likelihood to Release . . . . .	3-2
	3.2.3 Surface Water Pathway Targets . . . . .	3-2
3.3	SOIL EXPOSURE . . . . .	3-2
	3.3.1 Surficial Conditions . . . . .	3-2
	3.3.2 Likelihood of Exposure . . . . .	3-2
	3.3.3 Soil Exposure Targets . . . . .	3-3
3.4	AIR PATHWAY . . . . .	3-3
	3.4.1 Atmospheric Conditions . . . . .	3-3
	3.4.2 Likelihood to Release . . . . .	3-3
	3.4.3 Air Pathway Targets . . . . .	3-3
3.5	DATA GAPS . . . . .	3-3

**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**TABLE OF CONTENTS  
(continued)**

<b>SECTION</b>	<b>TITLE</b>	<b>PAGE</b>
<b>4</b>	<b>SAMPLING VISIT ACTIVITIES</b>	<b>4-1</b>
4.1	FIELD PERSONNEL	4-1
4.2	MOBILIZATION TASKS	4-1
4.2.1	Task 1 - Mobilization	4-1
4.2.2	Task 2 - Health and Safety Meeting and Protocol	4-3
4.2.3	Task 3 - Initial Sample Location Reconnaissance	4-4
4.2.4	Task 4 - Acquisition of Offsite Access	4-4
4.2.5	Task 5 - Command Post Establishment	4-4
4.3	SAMPLING TASKS	4-5
4.3.1	Task 6 - Documentation of Field Activities	4-5
4.3.2	Task 7 - Equipment Decontamination	4-5
4.3.3	Task 8 - Waste Sampling	4-5
4.3.4	Task 9 - Soil Sampling	4-5
4.3.5	Task 10 - Surface Water and Bottom Sediment Sampling	4-6
4.3.6	Task 11 - Groundwater Sampling	4-6
4.3.7	Task 12 - Air Sampling	4-6
4.3.8	Task 13 - Sample Management	4-6
4.3.8.1	Sample Documentation	4-6
4.3.8.2	Sample Packaging	4-7
4.3.8.3	Sample Shipping	4-7
4.4	DEMOBILIZATION AND OTHER ACTIVITIES	4-7
4.4.1	Task 14 - Demobilization	4-7
4.4.2	Task 15 - Decontamination Rinsate Water Disposal or Staging	4-7
4.4.3	Task 16 - Background Information Acquisition	4-7
4.5	COMMUNITY RELATIONS	4-8
4.6	FIELD FOLLOW-UP MEMORANDUM	4-8
4.7	REPORT PREPARATION	4-8
<b>5</b>	<b>PROJECT INFORMATION</b>	<b>5-1</b>
5.1	KEY PROJECT PERSONNEL	5-1
5.2	PROJECT SCHEDULE	5-1

THIS DOCUMENT WAS PREPARED BY ROY F. WESTON, INC., EXPRESSLY FOR EPA. IT SHALL NOT BE RELEASED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE EXPRESS, WRITTEN PERMISSION OF EPA.

**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**TABLE OF CONTENTS  
(continued)**

<b>SECTION</b>	<b>TITLE</b>	<b>PAGE</b>
5.3	SAMPLING VISIT SCHEDULE . . . . .	5-1
5.4	IMPORTANT PHONE NUMBERS . . . . .	5-2
6	REFERENCE LIST . . . . .	6-1

**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**LIST OF FIGURES**

<b>FIGURE</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
1-1	Site Location Map . . . . .	1-2
2-1	Site Area Map . . . . .	2-2
5-1	Anticipated Key Personnel . . . . .	5-3

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TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**LIST OF TABLES**

<b>TABLE</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
4-1	Anticipated Project Personnel . . . . .	4-2
5-1	Project Schedule . . . . .	5-4

**SITE INSPECTION  
TASK WORK PLAN**

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MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**LIST OF APPENDICES**

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**APPENDIX   DESCRIPTION**

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- |          |                                      |
|----------|--------------------------------------|
| <b>A</b> | <b>SITE ACCESS AGREEMENT</b>         |
| <b>B</b> | <b>HEALTH AND SAFETY PLAN</b>        |
| <b>C</b> | <b>SITE RECONNAISSANCE CHECKLIST</b> |



## **SECTION 1 INTRODUCTION**

Under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the 1986 Superfund Amendments and Reauthorization Act (SARA), Roy F. Weston, Inc. (WESTON<sub>®</sub>) has been tasked to perform a Site Inspection (SI) of the West Bank Asbestos (West Bank) Site (EPA Identification No. LAD985170711) located in Marrero, Jefferson Parish, Louisiana (Figure 1-1). Based on available site information, WESTON believes that the site is presently eligible for action under CERCLA/SARA. The United States Environmental Protection Agency (EPA) Region VI retained WESTON to complete this investigation under EPA Contract No. 68-W9-0015 and Work Assignment No. 23-6JZZ.

This document represents the Task Work Plan (TWP) for the SI. The purpose of the TWP is to propose sample locations and field procedures for the SI based on available background information and the results of the site reconnaissance.

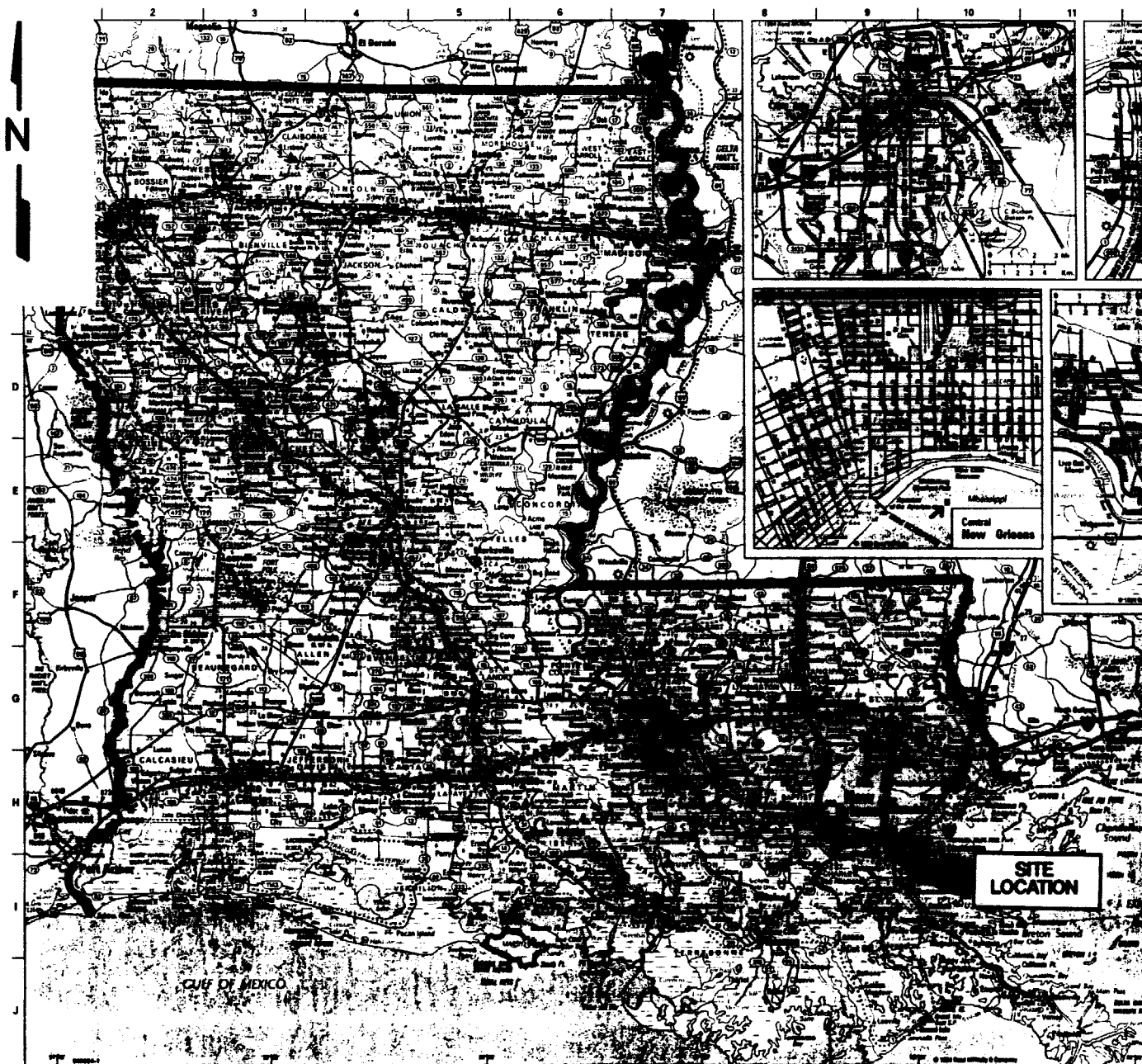
### **1.1 PURPOSE OF THE INVESTIGATION**

The SI is the second investigation in a series of screening assessments in which EPA evaluates hazardous waste sites under CERCLA/SARA. The purpose of this SI is to identify immediate or potential threats that hazardous substances attributable to the site may pose to human health and the environment by documenting the existence and migration of hazardous substances related to the site and by identifying the receptors, or targets, potentially exposed to the hazardous substances. EPA will use the information obtained during the SI to evaluate the site using the Hazard Ranking System (HRS) and to help decide if the site is a potential candidate for inclusion on the National Priority List (NPL). Depending on the results of the SI, EPA may propose the site for listing on the NPL, decide that further investigation of the site is required, or determine that no further action should be taken at the site under CERCLA/SARA.

### **1.2 SCOPE OF WORK**

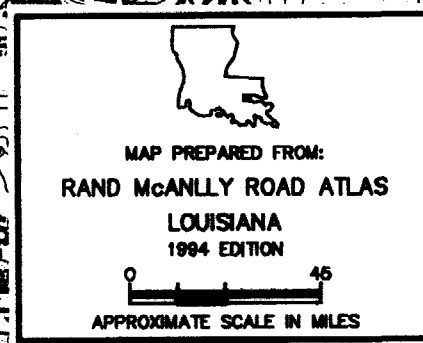
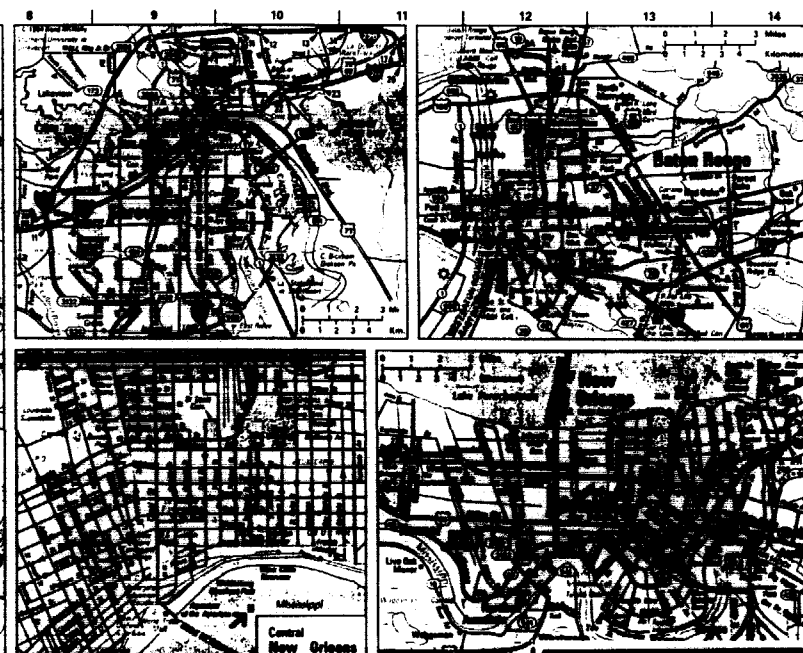
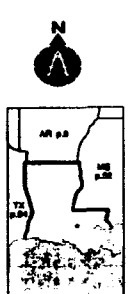
The scope of work for the SI will focus on obtaining the most important background information and analytical data required to evaluate the site using the HRS. WESTON will complete the following major tasks as part of this SI:

- Obtain and review available background information concerning the site;
- Research data related to the groundwater, surface water, soil exposure, and air pathways;
- Conduct a site reconnaissance to document current site conditions, locate hazardous waste sources, identify potential receptors or targets of a release, and select sample locations;



**Louisiana**

Rand McNally Road Atlas  
 Louisiana  
 1994 Edition  
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 Rand McNally  
 123



**SITE LOCATION**

**WESTON**

**FIGURE 1-1**  
**EPA REGION VI**  
**ARCS SITE INSPECTIONS**  
**SITE LOCATION MAP**

WEST BANK ASBESTOS  
 MARRERO, LOUISIANA  
 CERCLA ID. NO. : LAD985170711

W.O. NO. : 04803-023-029-2000

- Prepare a site-specific Task Work Plan (TWP) and a Health and Safety Plan (HASP) describing planned sampling activities and appropriate safety protocol;
- Conduct environmental sampling at and near the site; and
- Prepare a Site Inspection Report to document the results of site reconnaissance, sampling activities and sample analyses as well as to present the background information obtained for the site.

### **1.3 WORK PLAN ORGANIZATION**

The SI TWP has been organized in a format that is intended to facilitate application of information in the report to the HRS. The workplan is organized as follows:

- Section 1 - Introduction,
- Section 2 - Site Background Information,
- Section 3 - Exposure and Migration Pathway Characteristics,
- Section 4 - Sampling Visit Activities,
- Section 5 - Project Information, and
- Section 6 - Reference List.

A copy of the site access agreement is provided in Appendix A, the site-specific Health and Safety Plan (HASP) is provided in Appendix B, and a Site Reconnaissance Checklist is provided in Appendix C.



2

## SECTION 2 SITE BACKGROUND INFORMATION

A summary of the location, description, operational history, hazardous waste characteristics, and concerns of the site is presented in the following sections. The site background information presented in this TWP has been obtained from reports previously completed for the site, as well as WESTON's recent site reconnaissance.

### 2.1 SITE LOCATION AND DESCRIPTION

The West Bank Site is located in Marrero, Jefferson Parish, Louisiana. The geographic coordinates of the estimated boundaries of the site are approximately:

- |                                                                                    |                                                                                   |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| ● <u>Northwest corner</u><br>North 29°55'04'' latitude<br>West 90°08'33" longitude | ● <u>Northeast corner</u><br>North 29°53'55" latitude<br>West 90°06'02" longitude |
| ● <u>Southwest corner</u><br>North 29°54'08" latitude<br>West 90°09'05" longitude  | ● <u>Southeast corner</u><br>North 29°53'41" latitude<br>West 90°06'00" longitude |

A Site Area Map is provided as Figure 2-1.

The site can be reached by traveling east on United States Highway 90 Business (US Hwy 90) from New Orleans across the Mississippi River (from Orleans to Jefferson Parish). Continue east, then south, and eventually west on US Hwy 90 (also known as the West Bank Expressway). The approximate southeast corner of the site begins at the intersection of US Hwy 90 and Barataria Boulevard (Reference 1).

WESTON contacted Mr. Bob Roth, District Maintenance Engineer, at P.O. Box 9180, Bridge City, Louisiana (phone number (504-436-9100) and Mr. Harold Schomaker, Director of Jefferson Parish Streets Department, at 1901 Ames, Marrero, Louisiana (phone number 504-349-5800) in November 1993. Mr. Roth signed an EPA Access Agreement on 3 December 1993 allowing WESTON access to the state rights-of-way associated with the site, if any. In addition, Mr. Schomaker signed an EPA Access Agreement on 6 December 1993 allowing WESTON access to streets and rights-of-way within the jurisdiction of Jefferson Parish (Appendix A).

WESTON completed the SI site reconnaissance on 1 April 1994. The site, which measures approximately 3 miles long and 1 mile wide, includes a residential community, several schools, and several small businesses as shown on Figure 2-1 (Reference 1).

The West Bank Site is located in Marrero, Louisiana. The areas around the site are described as follows (Reference 1):

- The site is bordered immediately to the north by 4th Street. Numerous small commercial businesses, large industrial facilities, and the Mississippi River are located further north of the site.
- The site is bordered immediately to the east by Barataria Boulevard. Residences, schools, and miscellaneous businesses are located further east of the site.
- The site is bordered immediately to the south by the West Bank Expressway. Residences and miscellaneous businesses are further south of the site.
- The site is bordered to the west by Avenue A. Residences are located further west of the site.

## **2.2 SITE HISTORY**

A Johns-Manville plant operated in Marrero, Louisiana between 1955 and 1965. The plant produced various types of asbestos containing materials (ACMs) with the principle product being asphalt roofing material. An ACM by-product was generated by the plant. The by-product, in aggregate form, was pulverized in a hammer mill and mixed with a filler to form a roadbed-like material. This aggregate was then offered to and accepted by local residents and governments (in the area which comprises the site) for driveways and right-of-way construction at no charge (Reference 2).

## **2.3 SUMMARY OF PREVIOUS INVESTIGATIONS**

WESTON reviewed available EPA CERCLA and Resource Conservation and Recovery Act (RCRA) files. Based on available information, the following previous investigations are known to have been completed for the site:

- A sampling visit was performed at the site by the Louisiana Department of Environmental Quality (LDEQ) on 12 January 1990. The sampling visit consisted of collecting one air sample using a high-volume air sampler and ten bulk samples of suspected ACM. Analysis of the air sample indicated the presence of 0.000003 fibers per cubic centimeter (f/cc) which is below the EPA action level of 0.1 f/cc. Analyses of the bulk samples revealed the presence of up to 60 percent asbestos (chrysotile and crocidolite) (Reference 3).
- Drive-by inspections were performed at the site and in nearby cities (including Gretna and Westwego, Louisiana) by the USEPA Technical Assistance Team (TAT) on 8 and 28 February and 7 and 8 March 1990. The TAT observed conditions at the inactive Johns-Manville plant and an active pipeyard which was constructed on top of an abandoned Johns-Manville landfill. The TAT observed possible ACM cropping out in the ditch below the pipeyard along River Road. In addition, the TAT inspected two other landfills which were used by the plant; one was north of the plant and the other was located on LaPalco Boulevard (unknown city). The TAT observed potential ACM at the surface in the landfill



located at LaPalco Boulevard. This ACM appeared to be in three forms: (1) a black, asphalt-like material, (2) a light gray to off white, fibrous material, and (3) variegated transite floor and siding tiles (Reference 2).

- A sampling event during which only air samples were collected was conducted by the TAT at the site from 7 to 9 March 1990. Analytical results indicated that all samples were below the detection limit of 0.001 f/cc (Reference 2).
- A Preliminary Assessment (PA) was completed by ICF Technology, Inc. on 16 October 1992. The PA Report summarized the site history, previous investigations performed at the site, and stated that the air and soil pathways were concerns at the site based on the deposition of ACM at the site in relation to the onsite residents (Reference 4).

## **2.4 WASTE SOURCE CHARACTERISTICS AND SITE CONCERNS**

Information concerning the known or potential hazardous waste source areas (HWSAs) at the site and the constituents thought to be associated with each source are described in the following sections along with a summary of potential concerns associated with contaminant migration and exposure.

### **2.4.1 Waste Source Characteristics**

Based on available background information and the results of WESTON's site reconnaissance efforts, the only potential HWSA identified at the site are the driveways and rights-of-way constructed using the ACM. The total amount of ACM deposited at the site is unknown. However, an area (as shown on Figure 2-1) where ACM is thought to have been deposited has been estimated and delineated during previous investigations.

### **2.4.2 Site Concerns**

Possible concerns associated with the HWSA at the site and the migration of or exposure to hazardous substances attributable to the site through the groundwater, surface water, soil exposure, and air pathways include the following:

- A release to groundwater is not suspected based the type of potential HWSA present at the site. In addition, there are no drinking water wells within 4 miles of the site, and the nearby population is supplied drinking water from intakes located along the Mississippi River.
- A release to surface water is not suspected based on the type of potential HWSA present at the site. In addition, runoff from the area drains into a canal (approximately 1.3 miles from the site) via an underground drainage system where it is then directed south and eventually into the Gulf of Mexico.

- A release to soil is possible based on the historical deposition of ACM. However, this pathway is not considered to be a concern based on the type of contaminant associated with the HWSA present at the site.
- A release to air is suspected because of the type of HWSA present at the site. The site consists of numerous residences, business, and schools. It should be noted that previous sampling events at the site have not documented the presence of significant levels of airborne asbestos above the EPA action level of 0.1 f/cc.



## CONSENT FOR ACCESS TO PROPERTY

Name: Bob Roth

EPA I.D. No.: LAD985170711

Site Name: West Bank Asbestos

**Description of Property:** The West Bank Asbestos Site is located in the residential neighborhood surrounding the Johns-Manville Plant in Marrero, Jefferson Parish, Louisiana (see attached site location map).

I hereby consent to officers, employees, and representatives authorized by the United States Environmental Protection Agency (EPA) entering and having continued access to my property for the following purposes:

1. Reviewing and copying documents related to the site;
2. The taking of such soil, water and air samples as may be determined to be necessary;
3. The sampling of any solids or liquids stored or disposed of on property;
4. The drilling of holes and the installation of monitoring wells for subsurface investigation of subsurface contamination.

I realize that these actions are undertaken pursuant to EPA's response and enforcement responsibilities under the Comprehensive Environmental Responsibility, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. § 9601 ~~et seq.~~, as well as 40 CFR Part 300.400 Subpart E.

I am the property owner, or a responsible agent of the property owner, and I warrant that I have the authority to enter into this access agreement.

Place a check mark in the appropriate space. Please note that if no selection is made EPA will assume that you do not wish to be provided with a portion of the sample.

( ) Please provide me with a portion of each sample taken at the property described above. I understand that there will be no charge for the sample portions provided by the EPA. I also understand that I must furnish suitable containers, be responsible for the laboratory analytical analysis, and sign for the transfer of custody from the EPA designated sampler.

( ) I do not wish to receive a portion of samples taken at the property described above.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE, Title

**APPENDIX A**  
**SITE ACCESS AGREEMENT**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200

DALLAS, TEXAS 75202-2733

1 December 1993

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**CERTIFIED MAIL/RETURN RECEIPT REQUESTED -**

**P 110 204 335**

**EPA I.D. NO.: LAD985170711**

**ATTN: Mr. Harold Schomaker  
Director of Jefferson Parish Street Department  
1901 Ames  
Marrero, LA 70072**

**RE: EPA Site Inspection  
Site Access Request  
West Bank Asbestos Site, Marrero, Louisiana**

**Dear Mr. Schomaker:**

The purpose of this letter is to request you to voluntarily permit the U.S. Environmental Protection Agency (EPA), and its officers, employees or representatives, authorized by EPA, including but not limited to Roy F. Weston, Inc. (WESTON<sub>o</sub>), (Contract No. 68-W9-0015), access to the above referenced property located in the residential neighborhood surrounding the Johns-Manville Plant on the west bank of the Mississippi River in Marrero, Louisiana so that EPA can enforce the provisions of the Comprehensive Environmental Responsibility Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. § 9601 *et seq.*, copy pertinent documents or records, inspect the site, and obtain samples of any suspected hazardous substance or pollutant or contaminant found on site. A description of the property or a map identifying the site for which access is required is attached.

Specifically, WESTON has been requested by the EPA, Region 6 to conduct a Site Inspection of the West Bank Asbestos Site to further assess the degree of risk to the public health, welfare, and environment related to hazardous substances, pollutants or contaminants that may be present at the site. Based on preliminary file information, EPA finds it necessary to perform this Site Inspection at your site pursuant to 40 CFR 300.400 Subpart E.

Section 104(e) of CERCLA, 42 U.S.C. Section 9604(e), explicitly grants EPA the authority to enter a property at reasonable times to inspect and obtain samples from any location of any suspected hazardous substance or pollutant or contaminant. Further, the cited section authorizes

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 2**

**EPA to require any person who has or may have information relating to any of the following to furnish information or documents relating to:**

- 1. The identification, nature and quantity of materials which have been or are generated, treated, stored, or disposed of at vessel or facility, or transported to a vessel or facility;**
- 2. The nature or extent of a release of a hazardous substance, or pollutant, or contaminant at or from a vessel or facility;**
- 3. Information relating to the ability of a person to pay for or perform a cleanup.**

**It is EPA policy to seek voluntary cooperation from the public when possible. Consequently, EPA is making this request for access to the property and records mentioned above. EPA hopes that you will voluntarily comply by signing, dating and returning the enclosed Consent for Access to Property, to the address indicated below within seven days of your receipt of this letter. Please mail it to:**

**Walter Helmick  
Superfund Site Assessment  
Hazardous Waste Section (6E-SH)  
USEPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733**

**If EPA does not receive the enclosed consent for access to the property, signed and dated by you, EPA will treat your failure to respond as a denial of access. Please note that EPA will not agree to conditions which will restrict or impede the manner or extent of an inspection or response action, impose indemnity or compensatory obligations on EPA, or operate as a release of liability. Should you impose conditions of this nature in the consent for access to the property, EPA will treat this as a denial of consent.**

**Failure to grant EPA access may result in the issuance of an order directing compliance with EPA's request for access. Failure to comply with such an order may result in a civil action in United States District Court to enjoin compliance with the order. EPA may also seek the assessment of a civil penalty not to exceed \$25,000 per day of noncompliance with the order. You may assert a business confidentiality claim covering part of the information you submit in response to this request. Any such claim must be made by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet or a stamped or typed legend or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Confidential portions of otherwise nonconfidential documents should**

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 3**

be clearly identified and may be submitted separately to facilitate identification and handling by EPA. If you make such claim, the information by that claim will be disclosed by EPA only to the extent, and by the means of the procedures, set forth in Subpart B of 40 CFR Part 2. If no such claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to you. The requirements of 40 CFR Part 2 regarding business confidentiality claims were published in the Federal Register on September 1, 1976, and amended on September 8, 1978, and December 18, 1985.

As part of the information gathering process, the collection of samples from your site may become necessary. This collection process may generate investigation derived wastes (IDWs) such as equipment, rinsate water, or disposable personal protective clothing. WESTON will manage these IDWs in the most responsible manner consistent with EPA policy regarding these wastes, which is to leave site conditions essentially unchanged, such as to return soil cuttings to the location from which they were taken or properly to dispose of the IDWs.

Field inspection activities are tentatively planned for mid December 1993 thru February 1994. You will be given at least two (2) weeks notice prior to the site visit. Jeff Wormser will be contacting you to verify the exact dates of this visit. During the visit you will be provided with a receipt describing any samples obtained and, if you so request, you will be given a portion of each sample. There will be no charge for the samples EPA provides you. If you would like a portion of each sample, please put a check mark in the space provided in the enclosed consent for access to property. If you do not wish to be provided with a portion of each sample, please put a check mark in the alternative space. If you do not mark any space, EPA will treat your failure to respond as your statement that you do not wish to be provided with a portion of each sample.

You can obtain a copy of the resulting inspection report and analytical data by writing to Ed Sierra, Chief, Superfund Site Assessment Section (6H-MA), EPA Region 6 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733.

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 4**

**In future inquiries, please indicate your site's EPA I.D. Number and name as listed, to ensure prompt processing. If you have any questions concerning this matter, please contact me at (214) 655-8373.**

**Sincerely,**

**Walter Helmick  
Superfund Site Assessment  
EPA Region 6**

**cc: Tim Knight  
Inactive & Abandoned Sites  
P. O. Box 82282  
Baton Rouge, LA 70887-2282**

**bcc: B. Williamson (6H-M)  
R. Meacham (6X)  
V. McFarland (6H-M)  
P. Charles (6X)  
B. Goetz (6XOCL)**

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 4**

**In future inquiries, please indicate your site's EPA I.D. Number and name as listed, to ensure prompt processing. If you have any questions concerning this matter, please contact me at (214) 655-8373.**

**Sincerely,**

**Walter Helmick  
Superfund Site Assessment  
EPA Region 6**

**cc: Tim Knight  
Inactive & Abandoned Sites  
P. O. Box 82282  
Baton Rouge, LA 70887-2282**

## CONSENT FOR ACCESS TO PROPERTY

Name: Mr. Harold Schomaker

EPA I.D. No.: LAD985170711

Site Name: West Bank Asbestos

**Description of Property:** The West Bank Asbestos Site is located in the residential neighborhood surrounding the Johns-Manville Plant in Marrero, Jefferson Parish, Louisiana (see attached site location map).

I hereby consent to officers, employees, and representatives authorized by the United States Environmental Protection Agency (EPA) entering and having continued access to my property for the following purposes:

1. Reviewing and copying documents related to the site;
2. The taking of such soil, water and air samples as may be determined to be necessary;
3. The sampling of any solids or liquids stored or disposed of on property;
4. The drilling of holes and the installation of monitoring wells for subsurface investigation of subsurface contamination.

I realize that these actions are undertaken pursuant to EPA's response and enforcement responsibilities under the Comprehensive Environmental Responsibility, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. § 9601 ~~et seq.~~, as well as 40 CFR Part 300.400 Subpart E.

I am the property owner, or a responsible agent of the property owner, and I warrant that I have the authority to enter into this access agreement.

Place a check mark in the appropriate space. Please note that if no selection is made EPA will assume that you do not wish to be provided with a portion of the sample.

☐ Please provide me with a portion of each sample taken at the property described above. I understand that there will be no charge for the sample portions provided by the EPA. I also understand that I must furnish suitable containers, be responsible for the laboratory analytical analysis, and sign for the transfer of custody from the EPA designated sampler.

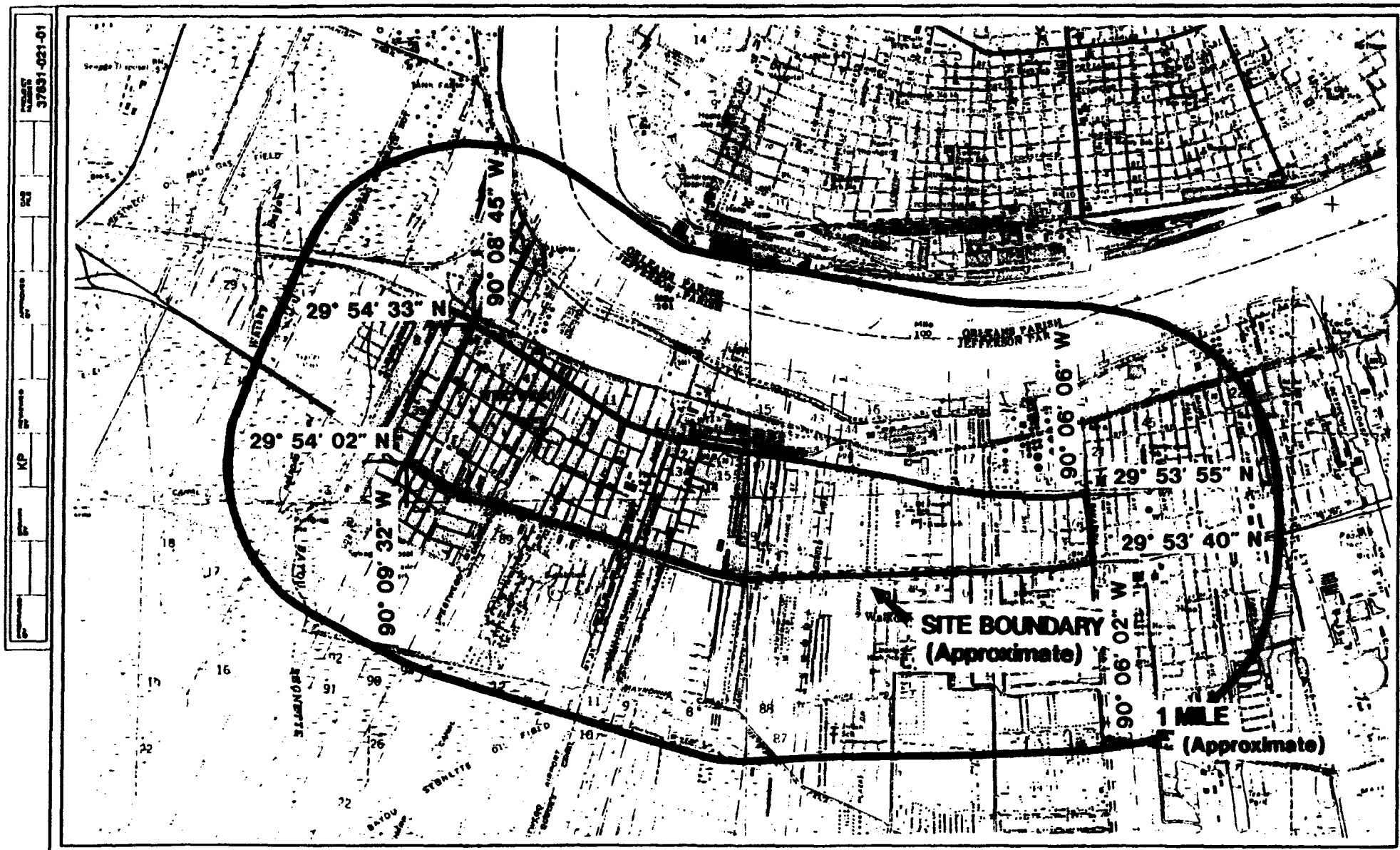
☐ I do not wish to receive a portion of samples taken at the property described above.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE, Title





37831-021-01



0 4000  
SCALE 1 : 48000

FIGURE 1  
SITE LOCATION MAP  
WESTBANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
CERCLIS #LAD985170711



QUADRANGLE LOCATION  
NEW ORLEANS WEST, LA. 1969  
NEW ORLEANS EAST, LA. 1969

**CONSENT FOR ACCESS TO PROPERTY**

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( ) Please provide me with a portion of each sample taken at the property described above. I understand that there will be no charge for the sample portions provided by the EPA. I also understand that I must furnish suitable containers, be responsible for the laboratory analytical analysis, and sign for the transfer of custody from the EPA designated sampler.

(☒) I do not wish to receive a portion of samples taken at the property described above.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind.

10/6/93  
DATE

Harold Schomaker, Director  
SIGNATURE, Title



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200

DALLAS, TEXAS 75202-2733

1 December 1993

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**CERTIFIED MAIL/RETURN RECEIPT REQUESTED -**

**P 110 204 123**

**EPA I.D. NO.: LAD985170711**

**ATTN: Bob Roth  
District Maintenance Engineer  
P.O. Box 9180  
Bridge City, LA 70096**

**RE: EPA Site Inspection  
Site Access Request  
West Bank Asbestos Site, Marrero, Louisiana**

**Dear Mr. Roth:**

The purpose of this letter is to request you to voluntarily permit the U.S. Environmental Protection Agency (EPA), and its officers, employees or representatives, authorized by EPA, including but not limited to Roy F. Weston, Inc. (WESTON<sup>®</sup>), (Contract No. 68-W9-0015), access to the above referenced property located in the residential neighborhood surrounding the Johns-Manville Plant on the west bank of the Mississippi River in Marrero, Louisiana so that EPA can enforce the provisions of the Comprehensive Environmental Responsibility Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. § 9601 *et seq.*, copy pertinent documents or records, inspect the site, and obtain samples of any suspected hazardous substance or pollutant or contaminant found on site. A description of the property or a map identifying the site for which access is required is attached.

Specifically, WESTON has been requested by the EPA, Region 6 to conduct a Site Inspection of the West Bank Asbestos Site to further assess the degree of risk to the public health, welfare, and environment related to hazardous substances, pollutants or contaminants that may be present at the site. Based on preliminary file information, EPA finds it necessary to perform this Site Inspection at your site pursuant to 40 CFR 300.400 Subpart E.

Section 104(e) of CERCLA, 42 U.S.C. Section 9604(e), explicitly grants EPA the authority to enter a property at reasonable times to inspect and obtain samples from any location of any suspected hazardous substance or pollutant or contaminant. Further, the cited section authorizes

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 2**

**EPA to require any person who has or may have information relating to any of the following to furnish information or documents relating to:**

- 1. The identification, nature and quantity of materials which have been or are generated, treated, stored, or disposed of at vessel or facility, or transported to a vessel or facility;**
- 2. The nature or extent of a release of a hazardous substance, or pollutant, or contaminant at or from a vessel or facility;**
- 3. Information relating to the ability of a person to pay for or perform a cleanup.**

**It is EPA policy to seek voluntary cooperation from the public when possible. Consequently, EPA is making this request for access to the property and records mentioned above. EPA hopes that you will voluntarily comply by signing, dating and returning the enclosed Consent for Access to Property, to the address indicated below within seven days of your receipt of this letter. Please mail it to:**

**Walter Helmick  
Superfund Site Assessment  
Hazardous Waste Section (6E-SH)  
USEPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733**

**If EPA does not receive the enclosed consent for access to the property, signed and dated by you, EPA will treat your failure to respond as a denial of access. Please note that EPA will not agree to conditions which will restrict or impede the manner or extent of an inspection or response action, impose indemnity or compensatory obligations on EPA, or operate as a release of liability. Should you impose conditions of this nature in the consent for access to the property, EPA will treat this as a denial of consent.**

**Failure to grant EPA access may result in the issuance of an order directing compliance with EPA's request for access. Failure to comply with such an order may result in a civil action in United States District Court to enjoin compliance with the order. EPA may also seek the assessment of a civil penalty not to exceed \$25,000 per day of noncompliance with the order. You may assert a business confidentiality claim covering part of the information you submit in response to this request. Any such claim must be made by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet or a stamped or typed legend or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Confidential portions of otherwise nonconfidential documents should**

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 3**

be clearly identified and may be submitted separately to facilitate identification and handling by EPA. If you make such claim, the information by that claim will be disclosed by EPA only to the extent, and by the means of the procedures, set forth in Subpart B of 40 CFR Part 2. If no such claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to you. The requirements of 40 CFR Part 2 regarding business confidentiality claims were published in the Federal Register on September 1, 1976, and amended on September 8, 1978, and December 18, 1985.

As part of the information gathering process, the collection of samples from your site may become necessary. This collection process may generate investigation derived wastes (IDWs) such as equipment, rinsate water, or disposable personal protective clothing. WESTON will manage these IDWs in the most responsible manner consistent with EPA policy regarding these wastes, which is to leave site conditions essentially unchanged, such as to return soil cuttings to the location from which they were taken or properly to dispose of the IDWs.

Field inspection activities are tentatively planned for mid December 1993 thru February 1994. You will be given at least two (2) weeks notice prior to the site visit. Jeff Wormser will be contacting you to verify the exact dates of this visit. During the visit you will be provided with a receipt describing any samples obtained and, if you so request, you will be given a portion of each sample. There will be no charge for the samples EPA provides you. If you would like a portion of each sample, please put a check mark in the space provided in the enclosed consent for access to property. If you do not wish to be provided with a portion of each sample, please put a check mark in the alternative space. If you do not mark any space, EPA will treat your failure to respond as your statement that you do not wish to be provided with a portion of each sample.

You can obtain a copy of the resulting inspection report and analytical data by writing to Ed Sierra, Chief, Superfund Site Assessment Section (6H-MA), EPA Region 6 1445 Ross Avenue, Suite 1200, Dallas, Texas 75202-2733.

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 4**

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**Sincerely,**

**Walter Helmick  
Superfund Site Assessment  
EPA Region 6**

**cc: Tim Knight  
Inactive & Abandoned Sites  
P. O. Box 82282  
Baton Rouge, LA 70887-2282**

**bcc: B. Williamson (6H-M)  
R. Meacham (6X)  
V. McFarland (6H-M)  
P. Charles (6X)  
B. Goetz (6XOCL)**

**URGENT LEGAL MATTER - PROMPT REPLY NECESSARY**

**1 December 1993**

**Page 4**

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EPA Region 6**

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Inactive & Abandoned Sites  
P. O. Box 82282  
Baton Rouge, LA 70887-2282**

**Ambient Air Sampling- Decision Logic and action levels to institute Air Sampling.**

☒ **No air sampling is required on this site.**

☐ **An air sampling plan is incorporated in this HASP.**

Check situations which will require or action levels which will apply to deciding to institute or increase scope of planned air sampling.

**Meteorological conditions:**

- ☐ a. Dry weather for days.
- ☐ b. Ambient temperature above F°.
- ☐ c. Wind increasing potential of more contaminant dispersion in or migration out of controlled area.

Activities which will require instituting or increasing scope of air sampling:

- ☐ a. major spills
- ☐ b. new site activity resulting in potential presence of new chemical hazards.
- ☐ c. site activity increases airborne contaminants possibilities.
- ☐ d. Air sampling documentation required for:
  - ☐ downgrading from stipulated level of protection.
  - ☐ documenting no migration of contaminants off site through air.

Applicable Action Levels for Instituting Air Sampling: (Check as Appropriate)

- ☐ a. Visible vapor/gas clouds or vapors levels, or
- ☐ b. Visible dust or particulate levels measured with Direct Reading Instrument, two-three times background or above action level, sustained over 10-15 minute period.

1. Sampling Matrix/  
air interface - Monitor matrix/air interface and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor continuously follow No. 4.
2. Container opening - Monitor opening and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor opening and breathing zone continuously, follow No. 4.
3. Excavation/Drilling/  
Intrusive Work - Monitor at ground level and breathing zone periodically with DRI, if Vapor levels > 2-3 times background, monitor opening and breathing zone continuously, follow No. 4.
4. Breathing zone - Ensure level of protection specified in HASP is being used. Consult HASP or Corporate Health and Safety relative to instituting personnel, area or perimeter sampling.

Other:



E. Sample Location - Not Applicable for this HASP

		Substances Sampled for
___ 1. Ambient background - Locations	_____ _____	_____ _____
___ 2. Personal samples, onsite - Locations	_____ _____	_____ _____
___ 3. Personal samples, offsite - Locations	_____ _____	_____ _____
___ 4. Fixed onsite samples - Locations	_____ _____	_____ _____
___ 5. Fixed offsite samples - Locations	_____ _____	_____ _____
___ 6. Mobile offsite samples - Locations	_____ _____	_____ _____
___ 7. Mobile onsite samples - Locations	_____ _____	_____ _____
___ 8. Background sample stations - Locations	_____ _____	_____ _____

F. Air Sampling: **None required**

1. Personal Sampling Pumps - Gilian, SKC, MSA No.:

**Sampling Media - Sorbent Tubes**

Task(s)	Location	Duration	Frequency	Type	Anal.	Meth
---------	----------	----------	-----------	------	-------	------


**Sampling Media - Filter**

Task(s)	Location	Duration	Frequency	Type	Anal.	Meth
---------	----------	----------	-----------	------	-------	------


**Sampling Media - Impinger**

Task(s)	Location	Duration	Frequency	Type	Anal.	Meth
---------	----------	----------	-----------	------	-------	------


**Sampling Media - Air Bag**

Task(s)	Location	Duration	Frequency	Type	Anal.	Meth
---------	----------	----------	-----------	------	-------	------


2. Hi-Volume Pumps (Not Applicable for this HASP)

Sampling Media - Filter

Task(s)	Location	Duration	Frequency	Type	Anal.	Meth

3. Portable Gas Chromatograph Task(s) \_\_\_\_\_ Type \_\_\_\_\_

Portable GC Analytical Plan: (None planned)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Passive Dosimeters (None planned)

	TASK(s)	TYPE	LOCATION	FREQUENCY	DURATION
Organic Vapor ( )	_____	_____	_____	_____	_____
Mercury Vapor ( )	_____	_____	_____	_____	_____
Paper Color ( )	_____	_____	_____	_____	_____
Change	_____	_____	_____	_____	_____
TLD ( )	_____	_____	_____	_____	_____
Film Badge ( )	_____	_____	_____	_____	_____
Liquid Media ( )	_____	_____	_____	_____	_____

5. Wipe Sampling

Wipe Sampling Plan: (None planned)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### G. Physical Hazard and Miscellaneous Monitors and Detectors

	TASK(S)	CALIBRATION / LOCATION / FREQUENCY / METHOD
Sound Level Meter	(N)	(N)
Noise Dosimeter(s)	(N)	(N)
Octave Band		
Analyzer	(N)	(N)
Light Meter	(N)	(N)
Electric Cir.		
Detector	(N)	(N)
Thermometer	(N)	(N)
Wind Speed		
Indicator	(N)	(N)
Barometer	(N)	(N)
Psychrometer	(N)	(N)
Infra Red		
Thermom.	(N)	(N)
Micro Wave		
Detector	(N)	(N)
pH Meter	(N) Task 35 (N) Task 34 Buffer, To be used in well locations	(N) D660

### H. Indicator Kits

	TASK(S)	LOCATION	FREQUENCY
pH Paper	(N) Task 35, 34 Sample Preparation Area in Support Zone		(N) D660
Peroxide Paper	(N) None Required		
Chlor-N-oil Kit	(N) None Required		
Hazard Categorizing Kit	(N) None Required		
Asbestos Test Kit	( )		

I. **Work Location Instrument Readings (To be Completed in Field Logbook)**

Location: \_\_\_\_\_

% LEL \_\_, \_\_, \_\_, \_\_; % O<sub>2</sub> \_\_, \_\_, \_\_, \_\_; PID ppm \_\_, \_\_, \_\_, \_\_  
FID ppm \_\_, \_\_, \_\_; Aerosol Monitor mg/M<sup>3</sup> \_\_, \_\_, \_\_  
GM: Shield Probe/Thin Window - mR/hr \_\_, \_\_, \_\_; cpm \_\_, \_\_, \_\_  
NaI \_\_, \_\_, \_\_, \_\_ uR/hr; ZnS \_\_, \_\_, \_\_, \_\_ cpm;  
(Monitox) ppm: ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
(Detector Tube) (s): ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
Sound Levels \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA  
Illumination \_\_; \_\_ Other \_\_ Other \_\_ Other \_\_ Other

Location: \_\_\_\_\_

% LEL \_\_, \_\_, \_\_, \_\_; % O<sub>2</sub> \_\_, \_\_, \_\_, \_\_; PID ppm \_\_, \_\_, \_\_, \_\_  
FID ppm \_\_, \_\_, \_\_; Aerosol Monitor mg/M<sup>3</sup> \_\_, \_\_, \_\_  
GM: Shield Probe/Thin Window - mR/hr \_\_, \_\_, \_\_; cpm \_\_, \_\_, \_\_  
NaI \_\_, \_\_, \_\_, \_\_ uR/hr; ZnS \_\_, \_\_, \_\_, \_\_ cpm;  
(Monitox) ppm: ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
(Detector Tube) (s): ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
Sound Levels \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA  
Illumination \_\_; \_\_ Other \_\_ Other \_\_ Other \_\_ Other

Location: \_\_\_\_\_

% LEL \_\_, \_\_, \_\_, \_\_; % O<sub>2</sub> \_\_, \_\_, \_\_, \_\_; PID ppm \_\_, \_\_, \_\_, \_\_  
FID ppm \_\_, \_\_, \_\_; Aerosol Monitor mg/M<sup>3</sup> \_\_, \_\_, \_\_  
GM: Shield Probe/Thin Window - mR/hr \_\_, \_\_, \_\_; cpm \_\_, \_\_, \_\_  
NaI \_\_, \_\_, \_\_, \_\_ uR/hr; ZnS \_\_, \_\_, \_\_, \_\_ cpm;  
(Monitox) ppm: ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
(Detector Tube) (s): ( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_;  
( ) \_\_, \_\_, \_\_, \_\_; ( ) \_\_, \_\_, \_\_, \_\_  
Sound Levels \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA; \_\_ dBA  
Illumination \_\_; \_\_ Other \_\_ Other \_\_ Other \_\_ Other

## V. Decontamination Plan

### A. Personnel Decontamination

Section III C lists the tasks and specific levels of protection required for each. Consistent with the levels of protection required, step by step procedures for personnel decontamination for each Level of Protection are attached.

### B. Levels of Protection Required for Decontamination Personnel

The levels of protection required assisting with decontamination will be ~~Level D~~ Modifications to Level D for this work are that Nitrile and Latex gloves will be worn by decontaminations personnel working in Level D.

### C. Non Sampling Equipment Decontamination

Non sampling equipment, such as monitoring instruments, will not be exposed to sources of contamination. They will be cleaned with a damp towel or by other appropriate means. There will be no heavy machinery associated with the project other than a van and a car. Vehicles will not be driven into areas of known or suspected contamination.

### D. Sampling Equipment Decontamination

Sampling equipment will be decontaminated in accordance with the following procedure:

Non disposable equipment will be washed in a tub with potable water and scrub brushes, washed with a solution of non-phosphate detergent and potable water, rinsed three times with deionized water, and allowed to air dry between sample locations. It may be decontaminated with hexane and ethanol onsite before it is returned to WESTON Regional Equipment Stores.

### E. Disposition of Decontamination Wastes

Decontamination wastes will be disposed of as follows:

- Personnel protective equipment (PPE) including tyvek, saranex, boot covers, gloves and other disposables will be ~~washed in potable water to remove gross contamination and then rinsed with potable water for decontamination purposes. Subsequently, the PPE will be removed and rendered unusable by shredding it with a knife. The unusable PPE will be~~ double bagged in two plastic trash bags and disposed of in a trash dumpster, or alternatively it will be drummed and stored onsite for later disposal by EPA or WESTON. If stored onsite, the decontamination wastes will be stored onsite in an area designated by the site representative or owner. D6W

- Equipment/PPE decontamination rinsate water will be collected over the course of the field work in five gallon plastic buckets or a small drum which will have a lid that can be sealed. If the site representative approves, the rinsate water will be poured into a known or potential hazardous waste unit at the site for disposal. Otherwise, the water will be sampled using procedures similar to those for the surface water sampling task, sealed in the buckets or drum, labelled, stored in a convenient location onsite (designated by site representative) and disposed of offsite by EPA or WESTON at a later date.

## VI. Contingencies

### A. Emergency Contacts and Phone Numbers

<u>Agency</u>	<u>Contact</u>	<u>Phone Number</u>
<u>Local Medical Emergency Facility</u>		911
WESTON Medical Emergency Contact	EMR	(800) 229-3674
WESTON Health and Safety	George Crawford	(215) 430-7406
Fire Department (Local)		and 911
Police Department (Local)		and 911
Site Coordinator	Robert Beck	(713) 621-1620
Site Telephone	None	Abandoned Site
Nearest Telephone	Field Team Leader	Hotel (to be determined)
Car Phone	Field Team Leader	To be determined

### B. Local Medical Emergency Facility(s)

#### 1. Primary Facility

Name of Hospital: WEST JEFFERSON MEMORIAL HOSPITAL Phone No. (504) 349-5511

Address: 1101 MEDICAL CENTER BLVD, WARRERO, LA 70072

Name of Contact: GAYLE SHINNERS (504) 349-6463

Type of Services:

☐ Physical Trauma only ☐ Chemical Exposure only  
☒ Physical Trauma & Chemical Exposure ☒ Available 24 Hours

Route to Hospital: (Attach Map)

Travel Time From Site (minutes): 5-15 minutes

Distance to Hospital (miles): < 0.1 - 3.7 miles

Name/No. of 24 Hour Ambulance Service:

Name: WEST JEFFERSON AMBULANCE  
Phone No.: 911

#### 2. Secondary or Specialty Services Provider

Name of Hospital: \_\_\_\_\_ Phone No. \_\_\_\_\_

Address: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Type of Services:

☐ Physical Trauma only ☐ Chemical Exposure only  
☐ Physical Trauma & Chemical Exposure ☐ Available 24 Hours

Route to Hospital: (Attach Map)

Travel Time From Site (minutes): \_\_\_\_\_ minutes

Distance to Hospital (miles): \_\_\_\_\_ miles

Name/No. of 24 Hour Ambulance Service:

Name: \_\_\_\_\_  
Phone No.: \_\_\_\_\_





**C. Response Plans**

**1. Medical - General Response Plan:**

- (1) Conduct a primary survey of the scene
- (2) Administer First Aid
- (3) Take to hospital if necessary
- (4) Document the incident and call the RSO and appropriate WESTON manager

a. First Aid Kit - Type: 25 man  
Location: WESTON or rental Van

b. Eyewash required ( Y ) Y/N  
Location(s): First Aid Kit in Van

c. Safety Shower  
Location(s): N/A

d. BLOOD-BORNE PATHOGEN KIT; LOCATION - RENTAL VAN

**2. Special First Aid Procedures: None Required  
Hydrofluoride on site (N) Y/N**

a. Attach HF procedure and ensure solution is on site. Not Applicable

Cyanides on site (N) Y/N

b. Confirm that Local Med. Emerg. Facility has antidote kit. Not Applicable

**3. Plan for Response to Fire/Explosion:**

- (1) Evacuate site
- (2) Call Fire Department (see Page 21)
- (3) Call WESTON Site Manager and RSO

**4. Fire Extinguisher:**

Type: ABC  
Location: VAN

**5. Plan for Response to Spill/Release:**

- (1) Evacuate site
- (2) Call Fire Department
- (3) Call WESTON Site Manager and RSO

**6. Spill Response Gear: Not Applicable. No spill response will be performed.**

**7. Plan for Response to Security Problems**

- (1) Evacuate site if necessary
- (2) Call Police (see Page 21)
- (3) Call WESTON Site Manager

## VII. Site Personnel and Certification Status

### A. WESTON

Name	Title	Task(s)	Medical Current a.	Qual b.	Fit Test Current Quant b.	Training Current c.	Certification Level or Description
Bruce Anderson*	PTL	All	(Y)	(Y)	( )	(Y)	D-S/B-T
Jeff Criner*	PTL	All	(Y)	(Y)	( )	(Y)	B-S
Steve Mitchell*	PTL	All	(Y)	(Y)	( )	(Y)	D-S/B-T
John Warren*	Sampler	All	(Y)	(Y)	( )	(Y)	D-S/B-T
Dennis Hayes	Sampler	All	(Y)	(Y)	( )	(Y)	B-T
Bob Ullmer*	Sampler	All	(Y)	(Y)	( )	(Y)	B-S/B-T
<del>Phillip Allen*</del>	<del>Sampler</del>	<del>All</del>	<del>(Y)</del>	<del>(Y)</del>	<del>( )</del>	<del>(Y)</del>	<del>D-S/B-T</del>
Jeff Wormser*	Sampler	All	(Y)	(Y)	( )	(Y)	D-S/B-T
Andy Kallus	Sampler	All	(Y)	(Y)	( )	(Y)	B-T
PETE RUNG	SAMPLER	ALL	(Y)	(Y)	( )	(Y)	B-T
DIANE WILLIAMS	SAMPLER	ALL	(Y)	(Y)	( )	(Y)	B-T
			( )	( )	( )	( )	
			( )	( )	( )	( )	
Site Health and Safety Coordinator (SHSC)							
JEFF WORMSER	PTL		(Y)	(Y)	( )	(Y)	D-S/B-T (RECON)

- (a) Training - All personnel, including visitors, entering the exclusion or contamination reduction zones must have certification of completion of training in accordance with OSHA 29 CFR 1910.29, CFR 1910.29, CFR 1226/1910 or 29 CFR 1910.120.
- (b) Respirator Fit Testing - All persons, including visitors, entering any area requiring the use of potential use of any negative pressure respirator must have had as a minimum, a qualitative fit test, administered in accordance with OSHA 29 CFR 1910.134 or ANSI within the last 12 months. If site conditions require the use of a full face negative pressure, air purifying respirator for protection from Asbestos or lead, employees must have had a <sup>QUALITATIVE</sup> Quantitative fit test, administered according to OSHA 29 CFR 1910.1002 or 1025 within the last 6 months.
- (c) Medical Monitoring requirements - All personnel, including visitors, entering the exclusion or contamination reduction zones must be certified as medically fit to work, and to wear a respirator, if appropriate, in accordance with 29 CFR 1910, 29 CFR 1926/1910 or 29 CFR 1910.120.

The Site Health and Safety Coordinator is responsible for verifying all certifications and fit tests.

\*The asterisk indicates that the person has the appropriate training to be assigned as SHSC for the project for the level of protection listed in the right hand column of the table above.

**B. Subcontractor's Health and Safety Program Evaluation**

Name and address of subcontractor: Not Applicable, no subcontractors this project

Activities to be conducted by subcontractor: Not Applicable

**SUBCONTRACTOR EVALUATION CRITERIA**

Item	Acceptable	Unacceptable	Comments
Medical Program meets OSHA/WESTON Criteria	( )	( )	
Personal Protective Equipment Available:	( )	( )	
a. meets OSHA criteria,	( )	( )	
b. is as specified in WLHASP	( )	( )	
On-site Monitoring Equipment Available, Calibrated and Operated Properly	( )	( )	
Safe Working Procedures Clearly Specified	( )	( )	
Training Meets OSHA/WESTON Criteria	( )	( )	
Emergency Procedures	( )	( )	
Decontamination Procedures	( )	( )	
General Health & Safety Program Evaluation	( )	( )	

Additional Comments:

Evaluation conducted by:    Date:

C. Subcontractor

<u>Name</u>	<u>Title</u>	<u>Task(s)</u>	Medical Current a. _____	Qual b. _____	Fit Test Current Quant b. _____	Training Current c. _____	Certification Level or Description
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	
			( )	( )	( )	( )	

**VIII. Health and Safety Plan Approval/Sign Off Form**

A. Site Name: EPA Region VI/ARCS Site Assessment - WESTBANK ASBESTOS  
Work Order No.: 04603-023-029-2000-03  
Site Location/Address: BARATARIA BLVD., WARRERO, LA.

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

Site Safety Coordinator: JEFF WORKMSE

Signature: [Signature] Date: 1 April 1994

<u>JEFF CRINER</u>	<u>[Signature]</u>	<u>4/1/94</u>
Name	Signature	Date

Name	Signature	Date
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Name	Signature	Date
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Name	Signature	Date
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## VIX. Training and Briefing Topics

A. The following items will be covered at the site specific training meeting, daily or periodically.

Site Specific Training Meeting	Daily	Periodically	
<u>  X  </u>	<u>      </u>	<u>      </u>	Site characterization and analysis, Sec. 3.0; 29 CFR 1910.120 i.
<u>  X  </u>	<u>  X  </u>	<u>      </u>	Physical hazards, Table 3.2.
<u>  X  </u>	<u>  X  </u>	<u>      </u>	Chemical hazards, Table 3.1.
<u>  X  </u>	<u>      </u>	<u>      </u>	Animal bites, stings and poisonous plants.
<u>      </u>	<u>      </u>	<u>      </u>	Etiologic (Infectious) Agents.
<u>  X  </u>	<u>      </u>	<u>      </u>	Site control, Sec. 8.0; 29 CFR 1910.120 d.
<u>      </u>	<u>      </u>	<u>      </u>	Engineering controls and work practices, Sec. 8.5; 29 CFR 1910.120 g. Heavy Machinery.
<u>      </u>	<u>      </u>	<u>      </u>	Forklift
<u>      </u>	<u>      </u>	<u>      </u>	Backhoe
<u>      </u>	<u>      </u>	<u>      </u>	Equipment
<u>      </u>	<u>      </u>	<u>      </u>	Tools
<u>      </u>	<u>      </u>	<u>      </u>	Ladder 29 CFR 1910.27 d.
<u>      </u>	<u>      </u>	<u>      </u>	Overhead and Underground Utilities
<u>      </u>	<u>      </u>	<u>      </u>	Scaffolds
<u>      </u>	<u>      </u>	<u>      </u>	Structural Integrity
<u>      </u>	<u>      </u>	<u>      </u>	Unguarded Openings-wall, Floor, Ceilings (?).
<u>      </u>	<u>      </u>	<u>      </u>	Pressurized Air Cylinders
<u>  X  </u>	<u>  X  </u>	<u>      </u>	Personnel Protective Equipment, Sec. 5.0; 29 CFR 1910.120 g; 20 CFR 1910.134
<u>  X  </u>	<u>      </u>	<u>      </u>	Respiratory Protection Sec. 5.8; 29 CFR 1910.120g; Z88.2-1980.
<u>      </u>	<u>      </u>	<u>      </u>	Level A
<u>      </u>	<u>      </u>	<u>      </u>	Level B
<u>  X  </u>	<u>      </u>	<u>  X  </u>	Level C
<u>  X  </u>	<u>  X  </u>	<u>      </u>	Level D
<u>  X  </u>	<u>  X  </u>	<u>  X  </u>	Monitoring, Sec. 7.0; 29 CFR 1910.120 h.
<u>  X  </u>	<u>      </u>	<u>  X  </u>	Decontamination, Sec. 9.0; 29 CFR 1910.120 k.

<b>Site Specific Training Meeting</b>	<b><u>Daily</u></b>	<b><u>Periodically</u></b>	
_____	_____	_____	Emergency Response, Sec. 10.0; 29 CFR 1910.120 l.
_____	_____	_____	Elements of an Emergency Response, Sec. 100; 29 CFR 1910.120 l.
<u>X</u>	<u>X</u>	_____	Procedures for Handling Site Emergency Incidents; Sec. 10.0; 29 CFR 1910.120 l.
_____	_____	_____	Off Site Emergency Response, 29 CFR 1910.120 l.
_____	_____	_____	Handling Drums and Containers, 29 CFR 1910.120 j.
_____	_____	_____	Opening Drums and Containers
_____	_____	_____	Electrical Material Handling Equipment.
_____	_____	_____	Radioactive Waste.
_____	_____	_____	Shock Sensitive Waste.
_____	_____	_____	Laboratory Waste Packs.
_____	_____	_____	Sampling Drums and Containers.
<u>X</u>	_____	<u>X</u>	Shipping and Transport, 49 CFR 172.101.
_____	_____	_____	Tank and Vault Procedures.
_____	_____	_____	Illumination, 29 CFR 1910.120 m.
_____	_____	_____	Sanitation, 29 CFR 1910.120 n.



**Attachment 1. Level D/Modified Level D Decontamination**  
**[Check indicated Functions or add steps as necessary]**

Step	Function	Description of Process Solution and Container
(1)	Segregated equipment drop	<u>Plastic Sheet</u>
<del>(2)</del>	Boot cover & glove wash	<u>Non-phosphate in a tub</u>
<del>(3)</del>	Boot cover & glove rinse	<u>Non-phosphate in a tub or spray bottle</u>
(2)(4)	Tape removal Outer glove & boot	<u>Double Bag for Disposal</u>
(3)(5)	Boot cover removal	<u>Double Bag for Disposal</u>
(4)(6)	Outer glove removal	<u>Double Bag for Disposal</u>
<hr/>		
<b>-----Hot-Line-----</b>		
( )	Suit/safety boot wash	<u>None</u>
( )	Suit/boot/glove rise	<u></u>
( )	Safety boot removal	<u>Plastic Bag for Cleaning if necessary</u>
(5) <del>(7)</del>	Suit Removal	<u>Bag for Cleaning</u>
( ) <del>(8)</del>	Inner glove wash	<u>Non-phosphate detergent solution in a bucket</u>
<del>(9)</del>	Inner glove rinse	<u>Deionized water in a bucket</u>
(6)(10)	Inner glove removal	<u>Double Bag for Disposal</u>
( )	Inner clothing removal	<u></u>
<hr/>		
<b>-----CRZ Safe Zone Boundary-----</b>		
( )	Field Wash	<u>Replace gloves, boot cover</u>
<del>(11)</del> <sup>rvw</sup>	Redress	<u>Replace suit if necessary</u>

**DISPOSAL PLAN:**

**END OF DAY:** All waste PPE will be shredded to render it unusable, and it will be double bagged in plastic trash bags. Waste PPE may be stored in a drum onsite on a daily basis, or it may be disposed of daily as indicated for End of Project disposal below.

**END OF PROJECT:** Double bagged waste PPE will be disposed of in an appropriate trash dumpster. Alternatively it will be left onsite in a drum for subsequent disposal by EPA or WESTON.

## Attachment 2. Level C/Decontamination

**[Check indicated Functions or add steps as necessary]**

Step	Function	Description of Process, Solution and Container
(1)	Segregated equipment drop	Plastic (Visqueen) sheet on ground
(2)	Boot cover & glove wash	Non-phosphate Detergent Solution in a tub
(3)	Boot cover & glove rinse	Potable water in a tub
(2) (4)	Tape removal Outer glove & boot	Double bag for disposal
(3) (5)	Boot cover removal	Double bag for disposal
(4) (6)	Outer glove removal	Double bag for disposal
-----Hot-Line-----		
(7)	*Suit/safety boot wash	Non-phosphate detergent solution
(8)	*Suit/boot/glove rise	Potable water in a tub
(9)	Safety boot removal	Plastic bag for cleaning
(5) (10)	Suit Removal	Bag for disposal in a tub
(11)	Inner glove wash	Non-phosphate detergent solution in a tub
(12)	Inner glove rinse	Potable water in a tub
(6) (13)	Face piece removal	Plastic Cloth
(7) (14)	Inner glove removal	Double bag for disposal
( )	Inner clothing removal	
-----CRZ/SafeZone Boundary-----		
( )	Field Wash	
( )	Redress	

**DISPOSAL PLAN:**

**END OF DAY:** See plan for Level D.

**END OF PROJECT:** See plan for Level D.

**\*Only if Saranex. Tyvek suits will not be washed.**

**Attachment 3. Level B/Decontamination - Not Applicable\***

[Check indicated Functions or add steps as necessary]

Step	Function	Description of Process Solution and Container
<input type="checkbox"/>	Segregated equipment drop	_____
<input type="checkbox"/>	Boot cover & glove wash	_____
<input type="checkbox"/>	Boot cover & glove rinse	_____
<input type="checkbox"/>	Tape removal Outer glove & boot	_____
<input type="checkbox"/>	Boot cover removal	_____
<input type="checkbox"/>	Outer glove removal	_____
-----Hot-Line-----		
<input type="checkbox"/>	Suit/safety boot wash	_____
<input type="checkbox"/>	Suit/boot/glove rise	_____
<input type="checkbox"/>	Safety boot removal	_____
<input type="checkbox"/>	Suit Removal	_____
<input type="checkbox"/>	Inner glove wash	_____
<input type="checkbox"/>	Inner glove rinse	_____
<input type="checkbox"/>	Inner clothing removal	_____
-----CRF/SafeZone Boundary-----		
<input type="checkbox"/>	Field Wash	_____
<input type="checkbox"/>	Redress	_____

**DISPOSAL PLAN:**

**END OF DAY:** \_\_\_\_\_

**END OF WEEK:** \_\_\_\_\_

**END OF PROJECT:** \_\_\_\_\_

- \* Note that this HASP requires amendment and reapproval before Level B work will be conducted at the site.

**B. Key Personnel/Identification of Health and Safety Personnel**

**1.0 Key Personnel**

The following personnel and organizations are key to the activities at this site.

**EPA Representatives**

<u>Organization/Branch</u>	<u>Name/Title</u>	<u>Address</u>	<u>Telephone</u>
EPA/Hazardous Waste	Stacey Bennett Work Assignment Mgr.	1445 Ross Ave. Dallas, TX 75202	214/655-6941
EPA Superfund Site Assessments	Ed Sierra Section Chief	1445 Ross Ave. Dallas, TX 75202	214/655-6740
_____	_____	_____	_____
_____	_____	_____	_____

**Roles and Responsibilities: Primary Client Contacts for Technical Work**

**Other EPA Contractors & Subcontractors (None This Project)**

<u>Organization/Branch</u>	<u>Name/Title</u>	<u>Address</u>	<u>Telephone</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Roles and Responsibilities: \_\_\_\_\_**

**Other Regulatory Agency Representatives None**

<u>Organization/Branch</u>	<u>Name/Title</u>	<u>Address</u>	<u>Telephone</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

**Roles and Responsibilities: \_\_\_\_\_**

BNZ

## BENZENE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
55	55.330	45	394	75	.988	55	.724
60	55.140	50	396	80	.981	60	.693
65	54.960	55	398	85	.975	65	.665
70	54.770	60	400	90	.969	70	.638
75	54.580	65	403	95	.962	75	.612
80	54.400	70	405	100	.956	80	.588
85	54.210	75	407	105	.950	85	.566
90	54.030	80	409	110	.944	90	.544
95	53.840	85	411	115	.937	95	.524
100	53.660	90	414	120	.931	100	.505
105	53.470	95	416	125	.925	105	.487
110	53.290	100	418	130	.919	110	.470
115	53.100			135	.912	115	.453
120	52.920			140	.906	120	.438
125	52.730			145	.900		
130	52.540			150	.893		
135	52.360			155	.887		
140	52.170			160	.881		
145	51.990			165	.875		
150	51.800			170	.868		
155	51.620						
160	51.430						
165	51.250						
170	51.060						
175	50.870						

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
77.02	.180	50	.881	50	.01258	0	.204
		60	1.171	60	.01639	25	.219
		70	1.535	70	.02109	50	.234
		80	1.969	80	.02681	75	.248
		90	2.547	90	.03371	100	.261
		100	3.227	100	.04198	125	.275
		110	4.049	110	.05172	150	.288
		120	5.033	120	.06317	175	.301
		130	6.201	130	.07662	200	.313
		140	7.577	140	.09194	225	.325
		150	9.187	150	.10960	250	.337
		160	11.060	160	.12960	275	.348
		170	13.220	170	.15270	300	.360
		180	15.700	180	.17880	325	.371
		190	18.520	190	.20750	350	.381
		200	21.740	200	.23970	375	.392
		210	25.360	210	.27500	400	.402
						425	.412
						450	.421
						475	.431
						500	.440
						525	.449
						550	.457
						575	.465
						600	.474

TOL	TOLUENE
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12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
-30	57.180	0	.396	0	1.026	0	1.024
-20	56.870	5	.397	10	1.015	5	.978
-10	56.550	10	.399	20	1.005	10	.935
0	56.240	15	.400	30	.994	15	.894
10	55.930	20	.402	40	.983	20	.857
20	55.620	25	.403	50	.972	25	.821
30	55.310	30	.404	60	.962	30	.788
40	54.990	35	.406	70	.951	35	.757
50	54.680	40	.407	80	.940	40	.727
60	54.370	45	.409	90	.929	45	.700
70	54.060	50	.410	100	.919	50	.673
80	53.750	55	.411	110	.908	55	.649
90	53.430	60	.413	120	.897	60	.625
100	53.120	65	.414	130	.886	65	.603
110	52.810	70	.415	140	.876	70	.582
120	52.500	75	.417	150	.865	75	.562
		80	.418	160	.854	80	.544
		85	.420	170	.843	85	.526
		90	.421	180	.833	90	.509
		95	.422	190	.822	95	.493
		100	.424	200	.811	100	.477
		105	.425	210	.800		
		110	.427				
		115	.428				
		120	.429				
		125	.431				

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
68.02	.050	0	.036	0	.00070	0	.228
		10	.057	10	.00103	25	.241
		20	.084	20	.00150	50	.255
		30	.121	30	.00212	75	.268
		40	.172	40	.00296	100	.281
		50	.241	50	.00405	125	.294
		60	.331	60	.00547	150	.308
		70	.449	70	.00727	175	.319
		80	.600	80	.00954	200	.331
		90	.792	90	.01237	225	.343
		100	1.033	100	.01584	250	.355
		110	1.332	110	.02007	275	.367
		120	1.700	120	.02518	300	.378
		130	2.148	130	.03127	325	.389
		140	2.690	140	.03850	350	.400
		150	3.338	150	.04700	375	.411
		160	4.109	160	.05691	400	.422
		170	5.018	170	.06840	425	.432
		180	6.083	180	.08162	450	.443
		190	7.323	190	.09675	475	.453
		200	8.758	200	.11400	500	.462
		210	10.410	210	.13340	525	.472
						550	.482
						575	.491
						600	.500

ETB

## ETHYLBENZENE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
40	54.990	40	.402	-90	1.065	40	.835
50	54.680	50	.404	-80	1.056	50	.774
60	54.370	60	.407	-70	1.047	60	.719
70	54.060	70	.409	-60	1.037	70	.670
80	53.750	80	.412	-50	1.028	80	.626
90	53.430	90	.414	-40	1.018	90	.586
100	53.120	100	.417	-30	1.009	100	.550
110	52.810	110	.419	-20	1.000	110	.518
120	52.500	120	.421	-10	.990	120	.488
130	52.190	130	.424	0	.981	130	.461
140	51.870	140	.426	10	.971	140	.436
150	51.560	150	.429	20	.962	150	.414
160	51.250	160	.431	30	.953	160	.393
170	50.940	170	.434	40	.943	170	.374
180	50.620	180	.436	50	.934	180	.356
190	50.310	190	.439	60	.924	190	.340
200	50.000	200	.441	70	.915	200	.325
210	49.690	210	.443	80	.906	210	.311
				90	.896		
				100	.887		
				110	.877		
				120	.868		
				130	.859		
				140	.849		
				150	.840		
				160	.830		

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
68.02	.020	80	.202	80	.00370	-400	-.007
		100	.370	100	.00654	-350	.026
		120	.644	120	.01099	-300	.060
		140	1.071	140	.01767	-250	.093
		160	1.713	160	.02734	-200	.125
		180	2.643	180	.04067	-150	.157
		200	3.963	200	.05826	-100	.187
		220	5.747	220	.08363	-50	.217
		240	8.147	240	.11520	0	.246
		260	11.290	260	.15510	50	.274
		280	15.320	280	.20480	100	.301
		300	20.410	300	.26670	150	.327
		320	26.730	320	.33910	200	.363
		340	34.480	340	.42620	250	.377
		360	43.800	360	.52850	300	.401
		380	54.950	380	.64720	350	.424
						400	.446
						450	.467
						500	.487
						550	.507
						600	.525

XLM

## m-XYLENE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
15	55.400	40	387	35	.962	15	.938
20	55.260	50	393	40	.953	20	.898
25	55.130	60	398	45	.944	25	.862
30	54.990	70	404	50	.935	30	.827
35	54.850	80	410	55	.926	35	.794
40	54.710	90	415	60	.917	40	.764
45	54.570	100	421	65	.908	45	.735
50	54.430	110	426	70	.899	50	.708
55	54.290	120	432	75	.890	55	.682
60	54.160	130	437	80	.881	60	.658
65	54.020	140	443	85	.873	65	.635
70	53.880	150	448	90	.864	70	.613
75	53.740	160	454	95	.855	75	.592
80	53.600	170	460	100	.846	80	.572
85	53.460	180	465			85	.554
90	53.320	190	471				
95	53.180	200	476				
100	53.050	210	482				

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	60	.090	60	.00172	0	.247
	N	70	.127	70	.00238	25	.260
	S	80	.177	80	.00324	50	.273
	O	90	.242	90	.00435	75	.286
	L	100	.326	100	.00577	100	.299
	U	110	.434	110	.00754	125	.311
	B	120	.571	120	.00975	150	.324
	L	130	.743	130	.01247	175	.336
	E	140	.956	140	.01577	200	.348
		150	1.219	150	.01977	225	.360
		160	1.538	160	.02455	250	.371
		170	1.924	170	.03023	275	.383
		180	2.386	180	.03691	300	.394
		190	2.939	190	.04473	325	.406
		200	3.590	200	.05382	350	.417
		210	4.355	210	.06431	375	.427
		220	5.247	220	.07635	400	.438
		230	6.282	230	.09009	425	.449
		240	7.476	240	.10570	450	.459
		250	8.846	250	.12330	475	.469
		260	10.410	260	.14310	500	.479
						525	.489
						550	.499
						575	.508
						600	.517



XLP

## p-XYLENE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
60	53.970	60	412	60	935	60	.678
65	53.830	70	418	65	928	65	.654
70	53.690	80	424	70	921	70	.631
75	53.550	90	429	75	914	75	.610
80	53.410	100	435	80	907	80	.590
85	53.270	110	440	85	900	85	.571
90	53.140	120	446	90	892	90	.552
95	53.000	130	451	95	885	95	.535
100	52.860	140	457	100	878	100	.519
105	52.720	150	462			105	.503
110	52.580	160	468			110	.488
115	52.440	170	474			115	.474
120	52.300	180	479			120	.460
		190	485				
		200	490				
		210	496				
		220	501				
		230	507				
		240	512				
		250	518				
		260	524				
		270	529				
		280	535				

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	60	.096	60	.00183	0	.246
	N	70	.135	70	.00252	25	.258
	S	80	.187	80	.00343	50	.272
	O	90	.255	90	.00459	75	.285
	L	100	.343	100	.00607	100	.297
	U	110	.456	110	.00792	125	.309
	B	120	.599	120	.01022	150	.321
	L	130	.777	130	.01303	175	.333
	E	140	.998	140	.01646	200	.345
		150	1.270	150	.02058	225	.357
		160	1.600	160	.02553	250	.368
		170	1.998	170	.03138	275	.380
		180	2.475	180	.03826	300	.391
		190	3.041	190	.04629	325	.402
		200	3.710	200	.05561	350	.413
		210	4.493	210	.06636	375	.424
		220	5.407	220	.07867	400	.436
		230	6.465	230	.09270	425	.445
		240	7.683	240	.10860	450	.456
		250	9.080	250	.12650	475	.468
		260	10.670	260	.14670	500	.476
						525	.486
						550	.496
						575	.505
						600	.515

XLO	O-XYLENE
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12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
15	56.460	35	389	35	1.043	15	1.328
20	56.330	40	391	40	1.035	20	1.263
25	56.190	45	394	45	1.027	25	1.202
30	56.050	50	396	50	1.018	30	1.145
35	55.910	55	398	55	1.010	35	1.092
40	55.770	60	400	60	1.002	40	1.042
45	55.630	65	402	65	.993	45	.995
50	55.490	70	404	70	.985	50	.952
55	55.360	75	406	75	.977	55	.911
60	55.220	80	408	80	.969	60	.873
65	55.080	85	411	85	.960	65	.836
70	54.940	90	413	90	.952	70	.802
75	54.800	95	415	95	.944	75	.770
80	54.660	100	417	100	.935	80	.740
85	54.520					85	.712
90	54.380						
95	54.250						
100	54.110						

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	60	.071	60	.00135	0	.261
	N	70	.101	70	.00188	25	.274
	S	80	.141	80	.00258	50	.287
	O	90	.194	90	.00349	75	.299
	L	100	.263	100	.00464	100	.311
	U	110	.352	110	.00611	125	.323
	B	120	.465	120	.00794	150	.335
	L	130	.608	130	.01021	175	.347
	E	140	.787	140	.01298	200	.358
		150	1.007	150	.01634	225	.370
		160	1.277	160	.02038	250	.381
		170	1.605	170	.02520	275	.382
		180	1.999	180	.03080	300	.403
		190	2.469	190	.03759	325	.414
		200	3.028	200	.04539	350	.424
		210	3.686	210	.05443	375	.435
		220	4.456	220	.06484	400	.445
		230	5.352	230	.07674	425	.465
		240	6.389	240	.09030	450	.485
		250	7.581	250	.10560	475	.475
		260	8.947	260	.12290	500	.485
						525	.494
						550	.504
						575	.513
						600	.522

HXA

## n-HEXANE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
35	42.220	0	.502	-5	.933	35	.334
40	42.060	10	.508	0	.927	40	.330
45	41.890	20	.513	5	.921	45	.327
50	41.730	30	.519	10	.914	50	.324
55	41.570	40	.524	15	.908	55	.321
60	41.400	50	.530	20	.902	60	.318
65	41.240	60	.535	25	.895	65	.315
70	41.070	70	.541	30	.889	70	.312
75	40.910	80	.547	35	.883	75	.309
80	40.740	90	.552	40	.878	80	.306
85	40.580	100	.558	45	.870	85	.304
90	40.410	110	.563	50	.863	90	.301
95	40.250	120	.569	55	.857	95	.298
100	40.080	130	.574	60	.851	100	.296
105	39.920	140	.580	65	.844	105	.294
110	39.750	150	.585	70	.838	110	.291
115	39.590			75	.832	115	.289
120	39.420			80	.825	120	.287
125	39.260			85	.819	125	.285
130	39.090			90	.813	130	.282
135	38.930			95	.806	135	.280
140	38.760			100	.800	140	.278
145	38.600			105	.794	145	.276
				110	.787		
				115	.781		

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I	0	.312	0	.00545	0	.350
	N	10	.439	10	.00750	25	.365
	S	20	.607	20	.01016	50	.381
	O	30	.827	30	.01355	75	.398
	L	40	1.108	40	.01781	100	.411
	U	50	1.466	50	.02308	125	.426
	B	60	1.913	60	.02955	150	.440
	L	70	2.467	70	.03740	175	.455
	E	80	3.147	80	.04681	200	.469
		90	3.971	90	.05799	225	.484
		100	4.962	100	.07116	250	.498
		110	6.143	110	.08656	275	.512
		120	7.539	120	.10440	300	.526
		130	9.177	130	.12490	325	.539
		140	11.090	140	.14840	350	.553
		150	13.300	150	.17510	375	.566
		160	15.840	160	.20520	400	.579
		170	18.740	170	.23890	425	.592
		180	22.050	180	.27670	450	.605
		190	25.780	190	.31860	475	.618
		200	29.990	200	.36490	500	.630
		210	34.700	210	.41600	525	.642
						550	.655
						575	.667
						600	.678

EAL

## ETHYL ALCOHOL

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
35	50.220	35	.539	-40	1.289		N O T  P E R T I N E N T
40	50.080	40	.545	-30	1.277		
45	49.930	45	.552	-20	1.265		
50	49.780	50	.558	-10	1.253		
55	49.630	55	.564	0	1.242		
60	49.490	60	.571	10	1.230		
65	49.340	65	.577	20	1.218		
70	49.190	70	.583	30	1.206		
75	49.040	75	.590	40	1.194		
80	48.900	80	.596	50	1.182		
85	48.750	85	.603	60	1.171		
90	48.600	90	.609	70	1.159		
95	48.460	95	.615	80	1.147		
100	48.310	100	.622	90	1.135		
105	48.160	105	.628	100	1.123		
110	48.010	110	.635	110	1.112		
115	47.870	115	.641	120	1.100		
120	47.720	120	.647	130	1.088		
125	47.570						
130	47.420						
135	47.280						
140	47.130						
145	46.980						
150	46.830						
155	46.690						
160	46.540						

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M	40	.304	40	.00261	0	.361
	I	50	.441	50	.00371	25	.362
	S	60	.629	60	.00520	50	.373
	C	70	.884	70	.00716	75	.384
	I	80	1.224	80	.00973	100	.386
	B	90	1.671	90	.01306	125	.408
	L	100	2.253	100	.01728	150	.417
	E	110	3.001	110	.02261	175	.427
		120	3.952	120	.02926	200	.437
		130	5.148	130	.03747	225	.447
		140	6.640	140	.04752	250	.457
		150	8.482	150	.06871	275	.467
		160	10.740	160	.07438	300	.477
		170	13.480	170	.09188	325	.487
		180	16.790	180	.11260	350	.496
		190	20.740	190	.13700	375	.506
		200	25.450	200	.16560	400	.514
		210	31.010	210	.19870	425	.523
						450	.532
						475	.541
						500	.549
						525	.558
						550	.566
						575	.574
						600	.582

HCL

## HYDROCHLORIC ACID

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
40	74.770	35	.417		NOT PERTINENT		NOT PERTINENT
50	74.599	40	.429				
60	74.419	45	.441				
70	74.250	50	.453				
80	74.080	55	.465				
90	73.900	60	.477				
100	73.730	65	.489				
110	73.559	70	.501				
120	73.381	75	.513				
		80	.525				
		85	.537				
		90	.548				
		95	.560				
		100	.572				
		105	.584				
		110	.596				
		115	.608				
		120	.620				

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M I S C I B L E	52	1.844		NOT PERTINENT		NOT PERTINENT
		54	1.970				
		56	2.104				
		58	2.246				
		60	2.396				
		62	2.555				
		64	2.723				
		66	2.901				
		68	3.088				
		70	3.287				
		72	3.496				
		74	3.717				
		76	3.951				
		78	4.197				
		80	4.456				
		82	4.730				
		84	5.018				
		86	5.321				
		88	5.640				
		90	5.975				
		92	6.328				
		94	6.699				
		96	7.089				
		98	7.499				
		100	7.929				
		102	8.380				

NAC

## NITRIC ACID

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
35	95.139	51	470		N		N
40	94.830	52	471		O		O
45	94.520	53	472		T		T
50	94.209	54	472				
55	93.910	55	473		P		P
60	93.599	56	473		E		E
65	93.290	57	474		R		R
70	92.990	58	474		T		T
75	92.679	59	475		I		I
80	92.370	60	475		N		N
85	92.070	61	476		E		E
90	91.759	62	477		N		N
95	91.450	63	477		T		T
		64	478				
		65	478				
		66	479				
		67	479				
		68	480				
		69	480				
		70	481				
		71	482				
		72	482				
		73	483				
		74	483				
		75	484				
		76	484				

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M	80	1.291	80	.01404	0	.206
	I	85	1.489	85	.01605	10	.209
	S	90	1.713	90	.01829	20	.213
	C	95	1.964	95	.02078	30	.216
	I	100	2.246	100	.02355	40	.219
	B	105	2.560	105	.02662	50	.223
	L	110	2.912	110	.03000	60	.228
	E	115	3.303	115	.03374	70	.229
		120	3.737	120	.03784	80	.232
		125	4.218	125	.04235	90	.236
		130	4.750	130	.04728	100	.239
		135	5.336	135	.05267	110	.242
		140	5.981	140	.05855	120	.246
		145	6.690	145	.06494	130	.249
		150	7.467	150	.07189	140	.252
		155	8.317	155	.07943	150	.255
		160	9.246	160	.08758	160	.259
		165	10.260	165	.09640	170	.262
		170	11.360	170	.10590	180	.265
		175	12.560	175	.11610	190	.269
		180	13.860	180	.12720	200	.272
						210	.275
						220	.278
						230	.282
						240	.285
						250	.288

SHD

## SODIUM HYDROXIDE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	44.810		N O T		N O T		N O T
36	47.660						
38	50.500						
40	53.350						
42	56.190		P E R T I N E N T		P E R T I N E N T		P E R T I N E N T
44	59.040						
46	61.880						
48	64.719						
50	67.570						
52	70.410						
54	73.259						
56	76.099						
58	78.950						
60	81.790						
62	84.639						
64	87.480						
66	90.320						
68	93.169						
70	96.009						
72	98.860						
74	101.700						
76	104.500						
78	107.400						
80	110.200						
82	113.099						
84	115.900						

VCM

## VINYL CHLORIDE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
0	61.000	-30	259	N O T  P E R T I N E N T		-10	287
5	60.710	-20	265			-5	281
		-10	272			0	276
		0	279			5	271

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
68.02	.600	-50	3.384	-50	.04810	0	.185
		-40	4.501	-40	.06245	25	.192
		-30	5.908	-30	.08005	50	.198
		-20	7.658	-20	.10140	75	.205
		-10	9.814	-10	.12710	100	.211
		0	12.440	0	.15760	125	.217
		10	15.610	10	.19360	150	.224
		20	19.410	20	.23560	175	.230
		30	23.920	30	.28440	200	.235
		40	29.220	40	.34050	225	.241
		50	35.430	50	.40470	250	.247
		60	42.630	60	.47760	275	.252
		70	50.940	70	.56000	300	.257
		80	60.480	80	.65250	325	.263
		90	71.349	90	.75670	350	.268
		100	83.669	100	.87050	375	.273
		110	97.580	110	.99740	400	.277
		120	113.200	120	1.13700	425	.282
						450	.286
						475	.291
						500	.295
						525	.299
						550	.303
						575	.307
						600	.311



MTH

## METHANE

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour- square foot-F	Temperature (degrees F)	Centipoise
-290	27.990	-290	.802		N O T  P E R T I N E N T	-290	290
-288	27.900	-285	.808			-285	254
-286	27.800	-280	.815			-280	225
-284	27.700	-275	.821			-275	200
-282	27.610	-270	.827			-270	179
-280	27.510	-265	.833			-265	151
-278	27.410	-260	.839			-260	146
-276	27.310						
-274	27.220						
-272	27.120						
-270	27.020						
-268	26.930						
-266	26.830						
-264	26.730						
-262	26.630						
-260	26.540						

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
I N S O L U B L E		-290	2.640	-290	.02325	0	.504
		-288	3.006	-288	.02617	25	.513
		-286	3.412	-286	.02936	50	.522
		-284	3.861	-284	.03284	75	.532
		-282	4.355	-282	.03663	100	.541
		-280	4.896	-280	.04074	125	.551
		-278	5.484	-278	.04519	150	.561
		-276	6.146	-276	.05000	175	.572
		-274	6.858	-274	.05519	200	.582
		-272	7.633	-272	.06077	225	.593
		-270	8.474	-270	.06676	250	.604
		-268	9.387	-268	.07318	275	.615
		-266	10.370	-266	.08004	300	.626
		-264	11.440	-264	.08736	325	.638
		-262	12.590	-262	.09516	350	.650
		-260	13.820	-260	.10350	375	.662
		-258	15.150	-258	.11230	400	.674
		-256	16.570	-256	.12160	425	.686
		-254	18.100	-254	.13150	450	.699
		-252	19.720	-252	.14190	475	.712
		-250	21.480	-250	.15290	500	.724
		-248	23.310	-248	.16450	525	.738
		-246	25.270	-246	.17670	550	.751
		-244	27.360	-244	.18960	575	.765
		-242	29.580	-242	.20300	600	.778
		-240	31.920	-240	.21710		

**APPENDIX B**

**HEALTH AND SAFETY PLAN**

**ARCS SITE ASSESSMENT  
SITE HEALTH AND SAFETY PLAN (HASP)**

Prepared By: DIANE G. WILLIAMS  
W. O. #: 04603-02-02-03-DGW  
04603-023-029-2000-03

Date: 17 DEC. 1993

**I. General Information**

**A. Project Identification**

1. Division: WESTON/Southcentral Region
2. Department/Office: Houston, Texas Consulting Departments (000536 and 000910)
3. Site Name: WESTBANK ASBESTOS
4. Client: EPA Region VI/ARCS, Dallas, Texas
5. Site Location/Address: BARATACIA BLVD., MARRERO, LA

**B. Site History**

THIS SITE IS THE NEIGHBORHOOD SURROUNDING THE JOHNS-MANVILLE PLANT IN MARRERO, LOUISIANA. THE SITE IS COMPOSED OF NUMEROUS DRIVEWAYS AND RIGHT-OF-WAYS UPON WHICH AN ASBESTOS-CONTAINING WASTE MATERIAL CONSISTING OF UP TO 60% ASBESTOS HAS BEEN LAID.

**C. Scope of Work**

Type of ARCS Site Assessment: SITE INSPECTION

The Scope of Work for the project includes onsite and offsite reconnaissance; and onsite and offsite sampling of one or more of the following: soil, surface water, groundwater, sediments, waste sources.

Site Visit only, Site HASP not necessary, list personnel here and sign below:

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

**D. Hazard Assessment and Regulatory Status**

Indicate Yes (Y) or No (N) to:

1. Types of hazards anticipated:

(Y) Physio-chemical Hazards (see below)

Toxic Chemical - Levels

(N) > TLV-TWA

(N) > IDLH

(N) > TLV-STEL

(Y) Bio-Hazards

(N) Radiation	(Y) Physical
(N) Construction type	(Y) Industrial type
(N) Nuclear Industry type	

2. Site Regulatory Status:

CERCLA/SARA

(Y) U.S. EPA CERCLA/SARA	(N) State
(N) NPL Site	

RCRA

(N) U.S. EPA	(N) State
--------------	-----------

OSHA

(Y) 1910	(N) 1926
(N) State	

NRC

(N) 10 CFR 20

Other Federal Agency)

(N) DOE	(N) USATHAMA
(N) Air Force	

Based on the Hazard Assessment and Regulatory Status, determine the Standard HASP(s) applicable to this project. Indicate below which Standard HASP will be used and append the appropriate pages of this Form along with the Standard Plan.

3. Standard Plan to be used:

(N) Stack Test	(N) Air Emissions
(N) Asbestos	(N) Industrial Hygiene
(N) Life Systems	(Y) Hazardous Material
(N) Construction	(N) NRC/DOE
(N) USATHAMA	(N) Air Force

E. Review and Approval Documentation

1. Reviewed by:

- a. P.M.: [Signature] (RBB)  
b. P.D.: Thomas R. Mason (JDD)  
c. DSO/RSO [Signature] (DKD)  
d. SHSC [Signature]

Date: 3/31/94  
Date: 31 March 94  
Date: 1/27/94  
Date: 1/24/94

2. Approved by:

[Signature] for GMC

Date: 3/30/94

- (✓) a. Corporate Health and Safety Director (CHSD)  
(X) b. DSO/RSO (Only with specific delegation by CHSD)

Project Start Date: 2/15/92; End Date: 5/15/94 <sup>9/30/94</sup> This Site HASP must be  
Reissued/Reapproved for any activities conducted after: Date: 8/15/93 <sup>10/24/94</sup>

Amendment: \_\_\_\_\_; End date amended to \_\_\_\_\_. Reapproval required after \_\_\_\_\_.

Amendment Date(s): 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

F. Key Personnel

1. WESTON Representative

Organization/Branch	Name/Title	Address	Telephone
WESTON/Houston	Robert Beck/ Site Manager	5599 San Felipe Suite 700 Houston, TX 77063	(713) 621-1620
WESTON/Houston	Barry Simmons/ Asst. Zone Program Mgr.	5599 San Felipe Suite 700 Houston, TX 77063	(713) 621-1620
WESTON/Houston	<u>JEFF WORMSER</u> Project Team Leader	5599 San Felipe Suite 700 Houston, TX 77063	(713) 621-1620
WESTON/Houston	<u>DIANE WILLIAMS</u> Field Team Leader	5599 San Felipe Suite 700 Houston, TX 77063	(713) 621-1620

2. **Roles and Responsibilities**

The site manager is responsible for project management of the Site Inspection (SI) Work Assignment. The Assistant Zone Program Manager oversees all ARCS work assignments including the SIs. The Project Team Leader (PTL) is responsible for completion of technical activities associated with the site. The Field Team Leader (FTL) is responsible for completion of field activities in the absence of the PTL.

3. **WESTON Subcontractors:** None

4. **Roles and Responsibilities:** Not Applicable; No Subcontractors

G. **Site Specific Health and Safety Personnel**

1. The SHSC for activities to be conducted at this site is JEFF WORMSER.

The Site Health and Safety Coordinator (SHSC) has total responsibility for ensuring that the provisions of this Site HASP are adequate and implemented in the field. Changing field conditions may require decisions to be made in the field concerning adequate protection protocols. Therefore, the personnel assigned as SHSC's are experienced and meet the training requirements specified by OSHA in 29 CFR 1910.120. Additional qualifications are specified below.

2. **SHSC Qualifications:** The SHSC designated for this site assessment will have OSHA 40-hour training and current refresher training as applicable. The SHSC will have completed the WESTON SHSC training course. He will have current first aid, CPR, blood borne pathogen and dangerous goods shipping training. He will have completed the appropriate amount of field work in the level of protection with WESTON for which he is to be SHSC, he will be participating in the WESTON medical monitoring program and have a current medical, and he will meet the approval of the Regional Safety Officer as SHSC.

3. **Designated SHSC alternatives include:** the field personnel listed on page 36 that meet training requirements for SHSC who are selected by the Project Team Leader and approved by the Regional Safety Officer to be designated alternative SHSCs. An asterisk appears after their name of the personnel listed on page 36 who are eligible for this role.

## II. Health and Safety Evaluation

### A. Hazard Assessment

1. Background Review: Complete ( ) Partial (X). The hazard assessment for the site is partially complete because the contaminant source areas onsite and contaminant migration have not been fully characterized. The purpose of this project is to assess site hazards through reconnaissance and sampling. The HASP will be amended to include hazards noted during site reconnaissance if necessary.
2. Activities Covered Under this Plan are listed below. A single line is drawn through non-applicable tasks:

Task/Subtask	Task Description	Schedule
1. Site Recon	Site Reconnaissance Walk Through	1/94 - 3/94
2. 2a	Soil Sampling	TO BE DETERMINED AFTER COMPLETION OF TASK 1 ACTIVITIES.
2b	Groundwater Sampling	
2c	Sediment Sampling	
2d	Surface Water Sampling	
2e	Waste Source Sampling	

### 3. Types of Hazards:

#### a. Physio-Chemical Hazards

- (X) Flammable (N) Explosive (N) Corrosive  
(X) Reactive (N) O<sub>2</sub> Rich (N) O<sub>2</sub> Deficient [1]\*

#### Chemically Toxic:

- (Y) Inhal. (Y) Ingest. (Y) Cont.  
(Y) Absorb. (Y) Carcin. (X) Mutagen  
(X) Terat. (Y) OSHA 1910.100 Substance

( ) OSHA Specific Hazard. Sub. Standard, Describe: ASBESTOS  
BENZENE (SUSPECTED)

#### b. Biological Hazards:

- (N) Etiol. Agent (Y) Other - Plant, insect, animal [2]\*

#### c. Radiation Ionizing Hazards: None Suspected

- (N) Internal Exposure (N) External Exposure [3]\*

#### Non-ionizing Radiation: None Suspected

- (N) UV (N) IR (N) RF  
(N) MicroW (N) LASER

- d. Physical Hazards: (Y) [4]<sup>1</sup>
- e. Construction Activities: (N) [5]<sup>1</sup>

**B. Source/Location of Contaminants and Hazardous Substances:**

**1. Directly Related to Tasks**

(Y) Air	(Y) Soil
(Y) Other Surface	(Y) S. Water
(Y) G. Water	(Y) Sediments
(Y) Waste Source Materials	

Note that the purpose of the site assessment is to identify source locations, and contamination is suspected in all pathways.

2. Indirectly Related to Work - Nearby Process(es) which could affect team members: None are known, but they are possible. This will be determined during site reconnaissance efforts. The HASP will be amended at the bottom of this page by the SHSC in consultation with the RSO after site recon if necessary. Nearby process areas that are not part of the site under investigation will not be approached.

Describe:

- (N) In accordance with the Scope of Work, a client briefing will not be arranged before site reconnaissance is performed. Subsequently, a briefing may be held with EPA to identify imminent threats associated with the site, if any.

**C. Chemical Hazards**

1. Identify and attach Material Safety Data Sheets for all reagent type chemicals, solutions or other materials identified as or which in normal use could produce hazardous substances used in performing tasks related to this project: NaOH, HCl and HNO<sub>3</sub> may be used as sample preservatives. A single line is drawn through non-applicable materials. MSDS Sheets attached include:

- NaOH Sample (Preservative)
- HNO<sub>3</sub> Sample (Preservative)
- HCl Sample (Preservative)
- Ethanol (Decontamination agent)
- Hexane (Decontamination agent)
- Benzene (Suspected site contaminant)
- Toluene (Suspected site contaminant)
- Xylene (Suspected site contaminant)
- ASBESTOS (Suspected site contaminant)
- ETHYLBENZENE (Suspected site contaminant)
- \_\_\_\_\_ (Suspected site contaminant)
- \_\_\_\_\_ (Suspected site contaminant)

<sup>1</sup> The number in the [ ] refers to one of the following hazard evaluation forms. Complete hazard evaluation forms for each appropriate Hazard Class.



2. Chemical Contaminants of Concern (Y). If present, provide following data.

Hazardous Substance/ Task	Physical Properties and Characteristics*	Exposure Limits PEL/TLV**	Route(s) of Exposure***/ Symptoms	Monitoring Instruments/IP+ % Response
Benzene	(*F) State = Liquid (in soil) pH= __ FP=12°F LEL=1.3% UEL=7.9% Auto.Ig= __ BP= 176°F MP= __ Incompatible with: strong oxidizers; many fluorides and perchlorates, nitric acid  Sp.Gr=0.88 Vap.D= __ Vap.P=75mm H <sub>2</sub> O Sol.=0.07%	NIOSH/OSHA=1 ppm ST=5 ppm IDLH=3000 ppm  [Cμ]	Inh, Abs, Ing, Con/ irrit eyes, nose resp sys; gidd; head, nau, stg. gait, Ftg, anor, lass, derm.	Organic Vapor Analyzer (OVA) Response=150% (% as methane) IP=9.24 eV
Toluene	(*F) State = Liquid (in soil) pH= __ FP=40°F LEL=1.2% UEL=7.1% Auto.Ig= __ BP=232°F MP=-139°F Incompatible with: strong oxidizers  Sp.Gr=0.87 Vap.D= __ Vap.P=65mm H <sub>2</sub> O Sol.=0.05% (20mm) (61°F)	NIOSH/OSHA=1 100 ppm ST=150 ppm IDLH=2000 ppm	INH, ABS, Ing, Con/ftg, weak; conf, euph, dizz, head, dilated pupils, lac; ner, musc. ftg, insom.	Organic Vapor Analyzer (OVA) Response=110% (% as methane) IP=8.82 eV
Xylenes	(*F) State = Liquid (in soil) pH= __ FP=63°F LEL=1.1% UEL=7.0% Auto.Ig= __ BP=292°F MP= __ Incompatible with:  Sp.Gr=0.88 Vap.D= __ Vap.P=7mm H <sub>2</sub> O Sol.=Insoluble	NIOSH/OSHA=1 100 ppm ST=150 ppm IDLH=1000 ppm	INH, ABS, Ing, Con/dizz, excitement, drow, inco, irrit eyes, nose, throat, anor, nau, vomit	Organic Vapor Analyzer (OVA) Response= 111% (o) 116% (m) 116% (p) (% as methane) IP=8.56
Ethylbenzene	(*F) State pH= __ FP=55°F LEL=1.0% UEL=6.7% Auto.Ig= __ BP=227°F MP= __ Incompatible with:  Sp.Gr=1.46 Vap.D= __ Vap.P=400mm H <sub>2</sub> O Sol.=0.9%	NIOSH/OSHA- 100 ppm ST=125 ppm IDLH=2000 ppm		Organic Vapor Analyzer (OVA) IP=8.76 eV Response= 100% (% as methane)

\* E = Explosive, F = Flammable, C = Corrosive, R = Reactive, W = Water reactive, O = Oxide, Ra = Radioactive. State = Normal physical state at site/proj. temp.

\*\* Use lowest of two, if no TLV/PEL, use Toxicity data in following order: Lowest Toxic Co humans (LTC-HMN), Lowest Lethal Conc. in humans (LLC-HMN), Lowest Toxic Dose in humans (LT Lowest Lethal Dose in humans (LLD-HMN), LC<sub>50</sub> or LD<sub>50</sub> in humans, the Lowest Toxic Concentration Lowest Toxic Dose in animals, the lowest LC<sub>50</sub> or LD<sub>50</sub> in animals.

\*\*\* I - Inhalation, G = Ingestion, S = Skin Absorption, C = Contact, D = Direct Penetration

+ IP = Ionization Potential

Hazardous Substance/ Task	Physical Properties and Characteristics*	Exposure Limits PEL/TLV**	Route(s) of Exposure***/ Symptoms	Monitoring Instruments/IP+ % Response
ASBESTOS	NONCOMBUSTIBLE (#F) State SOLID pH=___ FP=NA LEL=NA UEL=NA Auto.Ig=___ BP=NA MP=1112 °F Incompatible with: (DECOMPOSES) NONE REPORTED Sp.Gr=___ Vap.D=___ Vap.P=0mm H <sub>2</sub> O Sol.=INSOLUBLE	0.1 FIBER/CM <sup>3</sup> PEL=9 TLV=___ IDLH=___	I, G / DYSP, INTERSTITIAL FIB, RESTRICTED PULM FUNCTION, FIBER CLUBBING. [CARCINOGEN]	<del>Organic Vapor Analyzer (OVA)</del> IP=NA Response=NA

Other notes: ~~May not be onsite, but suspected because it is common~~ DGM

(*) State	PEL=___	Organic Vapor Analyzer (OVA)
pH=___ FP=___ LEL=___ UEL=___	TLV=___	IP=___
Auto.Ig=___ BP=___ MP=___	IDLH=___	Response=___
Incompatible with:		
Sp.Gr=___ Vap.D=___		
Vap.P=___ H <sub>2</sub> O Sol.=___		

Other notes: May not be onsite, but suspected because it is common

(*) State	PEL=___	Organic Vapor Analyzer (OVA)
pH=___ FP=___ LEL=___ UEL=___	TLV=___	IP=___
Auto.Ig=___ BP=___ MP=___	IDLH=___	Response=___
Incompatible with:		
Sp.Gr=___ Vap.D=___		
Vap.P=___ H <sub>2</sub> O Sol.=___		

Other notes: May not be onsite, but suspected because it is common

(*) State	PEL=___	Organic Vapor Analyzer (OVA)
pH=___ FP=___ LEL=___ UEL=___	TLV=___	IP=___
Auto.Ig=___ BP=___ MP=___	IDLH=___	Response=___
Incompatible with:		
Sp.Gr=___ Vap.D=___		
Vap.P=___ H <sub>2</sub> O Sol.=___		

Other notes: May not be onsite, but suspected because it is common

\* E = Explosive, F = Flammable, C = Corrosive, R = Reactive, W = Water reactive, O = Oxide, Ra = Radioactive. State = Normal physical state at site/proj. temp.

\*\* Use lowest of two, if no TLV/PEL, use Toxicity data in following order: Lowest Toxic Co humans (LTC-HMN), Lowest Lethal Conc. in humans (LLC-HMN), Lowest Toxic Dose in humans (LT Lowest Lethal Dose in humans (LLD-HMN), LC<sub>50</sub> or LD<sub>50</sub> in humans, the Lowest Toxic Concentration Lowest Toxic Dose in animals, the lowest LC<sub>50</sub> or LD<sub>50</sub> in animals.

\*\*\* I - Inhalation, G = Ingestion, S = Skin Absorption, C = Contact, D = Direct Penetration

+ IP = Ionization Potential

D. Biological Hazards:

Hazard	(Y/N)	Task No.(s)*	Location/ Source (K/S)**	Route of Exposure (I,G,C,D) +	Team Member(s) Allergic?	Immunization Req'd?
Poisonous Plants	(Y)	All	Suspected	Contact	No	No
Insects*	(Y)	All	Suspected	Direct Penet.	No	No
Snakes	(Y)	All	Suspected	Direct Penet.	No	No
Animals	(Y)	All	Suspected	Direct Penet.	No	No
Sewage	(N)	None reported or suspected at the site.				
Etiologic Agents	(N)	None reported or suspected at the site.				

\* Note that a tick check will be completed for all of the field team members at the end of each day. The spread of lyme disease through contact with ticks is of concern.

E. Radiation Hazards of Concern: No Radiation Hazards known or suspected.

TYPE

1. Ionizing - N/A

	Location/ Source	Type Emitter	Task No.(s)	Exposure Limits	Protection Protocol Reference
RadioNuclide					

2. Non-ionizing N/A

	Location/ Source	Type Emitter	Task No.(s)	Exposure Limits	Protection Protocol Reference
Ultra violet					
Infra Red					
Microwave					
Radio-Freq.					
LASER					

## F. Physical Hazards of Concern

	Hazard (Y/N)	TASK NO(S).	Protection OP(s) (See Note Below)
1. Noise	(N)	N/A	
2. Heat - ambient air	(Y)+	All	FLD02, FLD05
- Hot Process - Steam	(N)	N/A	FLD03
- Hot Process - LT <sup>3</sup>	(N)	N/A	FLD04
- Hot Process - Incin.	(N)	N/A	FLD04
3. Cold	(Y)+	All	FLD02, FLD06
4. Rain	(Y)	All	FLD02, FLD07
5. Snow	(Y)+	All	FLD02
6. Electric Storms	(Y)	All	FLD02
7. Confined Space Entry	(N)	N/A	FLD08
8. "Hot Work"	(N)	N/A	FLD09
9. Heavy Manual Lifting/Moving	(Y)	All	FLD10
10. Rough Terrain	(Y)		FLD11
11. Housekeeping	(N)	N/A	FLD12
12. Structural Integrity	(N)	N/A	FLD13
13. Neighborhood	(Y)	All	
14. Remote Area	(Y)	All	FLD15
15. Compressed Gases	(Y)	All	FLD16
16. Diving	(N)	N/A	FLD17
17. Using Boats	(N)		FLD18
18. Working Over Water	(N)		FLD19
19. Traffic	(N)		FLD20
20. Explosives	(N)		FLD21
21. Heavy Equipment Operation	(N)	N/A	FLD22A
22. Lifting Equipment Operation	(N)	N/A	FLD23
- Cranes,	(N)	N/A	
- Manlifts			
23. Working at Elevation	(N)	N/A	FLD25
24. Using Ladders	(N)	N/A	FLD26
25. Using Scaffolding	(N)	N/A	FLD27
26. Excavating/Trenching	(N)	N/A	FLD28
27. Materials Handling	(N)		FLD29
28. Haz. Mat. Use/Storage	(Y)	All	FLD30
- fam. liq./gases	(Y)	2	
- oxidizers	(Y)	2	
- corrosives			
29. Fire Prevent/Response plan required	(N)	N/A	FLD31
30. Fire Extinguishers required	(Y)	All	FLD32
31. Demolition	(N)	N/A	FLD33
32. Utilities - Underground	(N)	N/A	FLD34
- Overhead	(N)	N/A	
33. Electrical - General	(N)	N/A	FLD35A
- High Voltage	(N)	N/A	
34. Welding/cutting/burning	(N)	N/A	FLD36
35. Hand tools	(Y)	All	FLD38
36. Power Hand Tools	(N)	N/A	FLD38
37. High Pressure Water	(N)	N/A	FLD37

	Hazard (Y/N)	TASK NO(S).	Protection OP(s) (See Note Below)
38. Other _____	( )		
39. Other _____	( )		
40. Other _____	( )		

## NOTES:

+ Seasonal

\* The Protection OPs are included in the WESTON SHSC Manual, which will be available onsite (kept in the van). This HASP will be attached to the manual so that the OPs are readily accessible with the HASP.

### Task by Task Risk Analysis

The preceding tables identify the hazards known or suspected to be present in accomplishing the tasks involved in this project. Section II A.2. of this HASP describes the background of this site/project and identifies the tasks involved. Each project task and the likelihood of exposure to the hazards identified and the protective protocols to be used are briefly described below. Tasks crossed out are not applicable for this investigation.

#### (1) Site Reconnaissance (ONSITE)

Members of the Project Team will perform a site walk through survey of the site. No intrusive activities will take place. Initial level of protection will be Level D because no air pathway hazards are known or suspected in the breathing zone. <sup>①</sup>The Sampling Team will monitor the area using a Geiger Mueller Radiation Meter (waist level) and an FID-OVA (breathing zone) to determine if upgrading to a higher level protection is needed. If elevated monitoring instrument readings are observed, the team will withdraw to the support zone immediately and upgrade appropriately to complete the work (see Page 17). An initial air monitoring effort will be made at sample locations to determine if upgrades in the level of protection are needed. See Page 17 for action levels for upgrade. Unless a miniRAM and appropriate action levels are specified below, work will stop if there is visible dust in the air. The reconnaissance team will return to the Support zone, upgrade to Level C with GM APR canisters, and continue work in Level C until the dust is no longer visually apparent. <sup>②</sup>No monitoring or PPE is required during the reconnaissance since the only contaminant of concern is Asbestos, in addition, no sampling or digging will occur during this phase.

Estimate of Risk of Exposure to Hazards:

RISK OF EXPOSURE IS CONSIDERED LOW DUE TO PROPER USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE) AND DUE TO ACTIVITIES BEING NON-INTRUSIVE. RECONNAISSANCE TEAM WILL AVOID ANY AREAS IN WHICH ASBESTOS-CONTAINING ASPHALT APPEARS TO BE DEGRADED OR FRIABLE. PPE REQUIREMENTS ARE LISTED ON PAGE 19.

**Additional Site Specific Information:**

(OFFSITE RECONNAISSANCE)

**(2a) Soil Sampling (TO BE COMPLETED AFTER COMPLETION OF TASK 1)**

Members of the Project Team will collect soil samples from onsite, and potentially offsite, locations. Initial level of protection will be Level D if justified by initial air monitoring at the sample locations. A miniram will be used to monitor particulate levels and an FID-OVA will be used to monitor organic gases and vapors before and during sampling to determine if upgrading (page 17) to a higher level of protection is necessary. Soils will be moistened if visible particulates are noted in the air around the samplers. See Page 17 for action levels for upgrade. Soil samples generally will be collected from 0 to 2 feet. Equipment used to collect the samples will include shovels, hand augers, and disposable plastic scoops. Unless miniRAM is specified below with action levels, work will stop if visible dust is seen in the air, and the sampling team will upgrade to Level C.

**Estimate of Risk of Exposure to Hazards:**

**Additional Air Monitoring/Equipment Required for this Task:**

**Additional Sampling Equipment/Procedures:**

**Additional Site Specific Information:**

(2b) **Groundwater Sampling** (TO BE DETERMINED AFTER COMPLETION OF TASK 1).

Members of the Sampling Team will collect groundwater samples from onsite, and, potentially, offsite locations. Onsite samples will be obtained from monitoring wells. Offsite samples will be obtained from monitoring wells, drinking water wells, or domestic taps. Initial level of protection will be Level D if justified by initial air monitoring at the sample locations. An FID-OVA will be used to monitor for organic vapors before and during sampling to determine if upgrading (page 17) to a higher level of protection is required. See Page 17 for action levels for upgrade. Face shields will also be worn by the samplers for additional protection when sampling monitoring wells. Bailers (disposable plastic or stainless steel) and/or submersible pumps will be used to purge wells and collect samples. Unless a miniRAM is specified below, work will stop if visible dust levels are seen in the air. Work will then proceed in Level C until dust is no longer visible.

Estimate of Risk of Exposure to Hazards:

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Additional Air Monitoring/Equipment:

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Additional Sampling Equipment/Procedures:

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Additional Site Specific Information:

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(2c) Sediment Sampling (TO BE COMPLETED AFTER COMPLETION OF TASK 1)

The Project Team will collect sediment samples from onsite and, potentially offsite, streams and drainage ditches. Team members will collect the samples from the edge of the ditch close to the bank using hand augers. Initially, Level D protection will be worn if justified by initial air monitoring at the sample locations. An FID-OVA will be used to monitor organic acids and vapors before and during sampling in the breathing zone to determine if upgrading (Page 17) to a higher Level of Protection is required. See Page 17 for action levels for upgrade. Unless a miniRAM and action levels are specified below, work will stop when dust becomes visible in the air. Work will proceed in Level C until dust is no longer visible.

Estimate of Risk of Exposure to Hazards:

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Additional Air Monitoring/Equipment:

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Additional Sampling Equipment/Procedures:

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Additional Site Specific Information:

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(2d) Surface Water Sampling (TO BE DETERMINED AFTER COMPLETION OF TASK 1)

The Project Team will collect water samples from onsite and, potentially, offsite surface water bodies. Team members will collect the samples from the edge of the water using a long-handled sampler or disposable bailer. Initially, Level D protection will be worn if justified by initial air monitoring at the sample locations. An FID-OVA will be used to monitor organic gases and vapors before and during in the breathing zone to determine if upgrading (Page 17) to a higher Level of Protection is required. See Page 17 for action levels for upgrade. Unless a miniRAM is specified below, work will stop when dust is visible in the air. Work then will proceed in Level C until dust is no longer visible.

Estimate of Risk of Exposure to Hazards:

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Additional Air Monitoring/Equipment:

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Additional Sampling Equipment/Procedures:

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Additional Site Specific Information:

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(2e) Waste Source Sampling (TO BE DETERMINED AFTER COMPLETION OF TASK 1)

(1) Sampling activity and equipment to be used:

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(2) Initial level of protection to be used:

The initial Level of Protection will be Level D if justified by initial air monitoring results at the sample locations. Upgrades will be completed in accordance with action levels included on page 17.

(3) Monitoring equipment used:

For each waste source sampling task, an FID-OVA will be used to monitor for organic vapors before and during sampling. Unless a miniRAM is specified below, work will stop when dust is visible in the air. Additional monitoring equipment to be used includes the following:

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(4) Estimate of risk of exposure to hazard:

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### **III. Personnel Protection Plan**

#### **A. Engineering Controls**

1. Describe Engineering Controls used as part of Personnel Protection Plan:

Task(s):

2a - Soils may be moistened to suppress dust generation if conditions are dry and this is thought to be necessary by the SHSC.

#### **B. Administrative Controls**

An initial safety meeting will<sup>be</sup> held at the site before work starts subsequently, safety meetings will be held each morning <sup>as needed</sup> and as needed. This will be done to keep all team members current on their knowledge of safety concerns at the site.

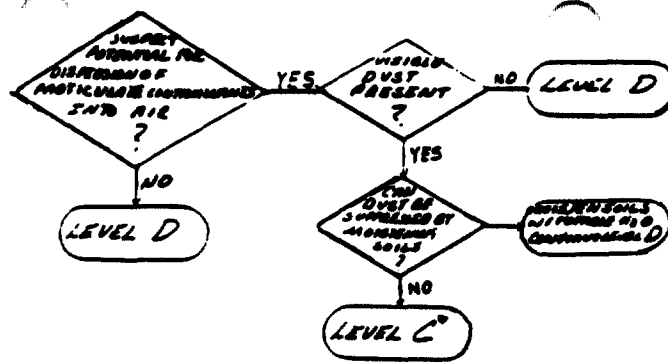
#### **C. Personnel Protective Equipment\***

1. Action Levels for Changing Levels of Protection

The FID-OVA Action Levels for up or down grade for each task are defined in the decision tree attached as the next page.

~~For action levels for the radiation meter, refer to page 25. DGW~~

For action levels for the miniRAM (if applicable), refer to page 25.



SITE NAME 8 WESTBANK ASBESTOS

SUSPECTED CONTAMINANT  
ASBESTOS

PEL/TLV  
0.1 FIBERS/cm<sup>3</sup>

DECISION TREE  
ON PAGE 17C  
APPLIES

SUSPECTED CONTAMINANT PEL/TLV IS  
 < NUISANCE DUST LEVEL OF 2.5 mg/m<sup>3</sup>.  
 HOWEVER, TASK 1 ACTIVITIES WILL BE  
 NON-INTRUSIVE AND OCCUR IN A NON-  
 CONFINED AREA (OUTDOORS). THUS,  
 ACTION LEVELS WILL BE BASED ON ABOVE  
~~NUISANCE DUST DECISION TREE~~ PARTICULATE  
 DECISION TREE. ACTION LEVELS FOR OTHER  
 TASKS (2a, 2b, etc.) WILL BE DETERMINED  
 AFTER COMPLETION OF TASK 1.

ORGANICS  
MONITORED  
W/ DVA

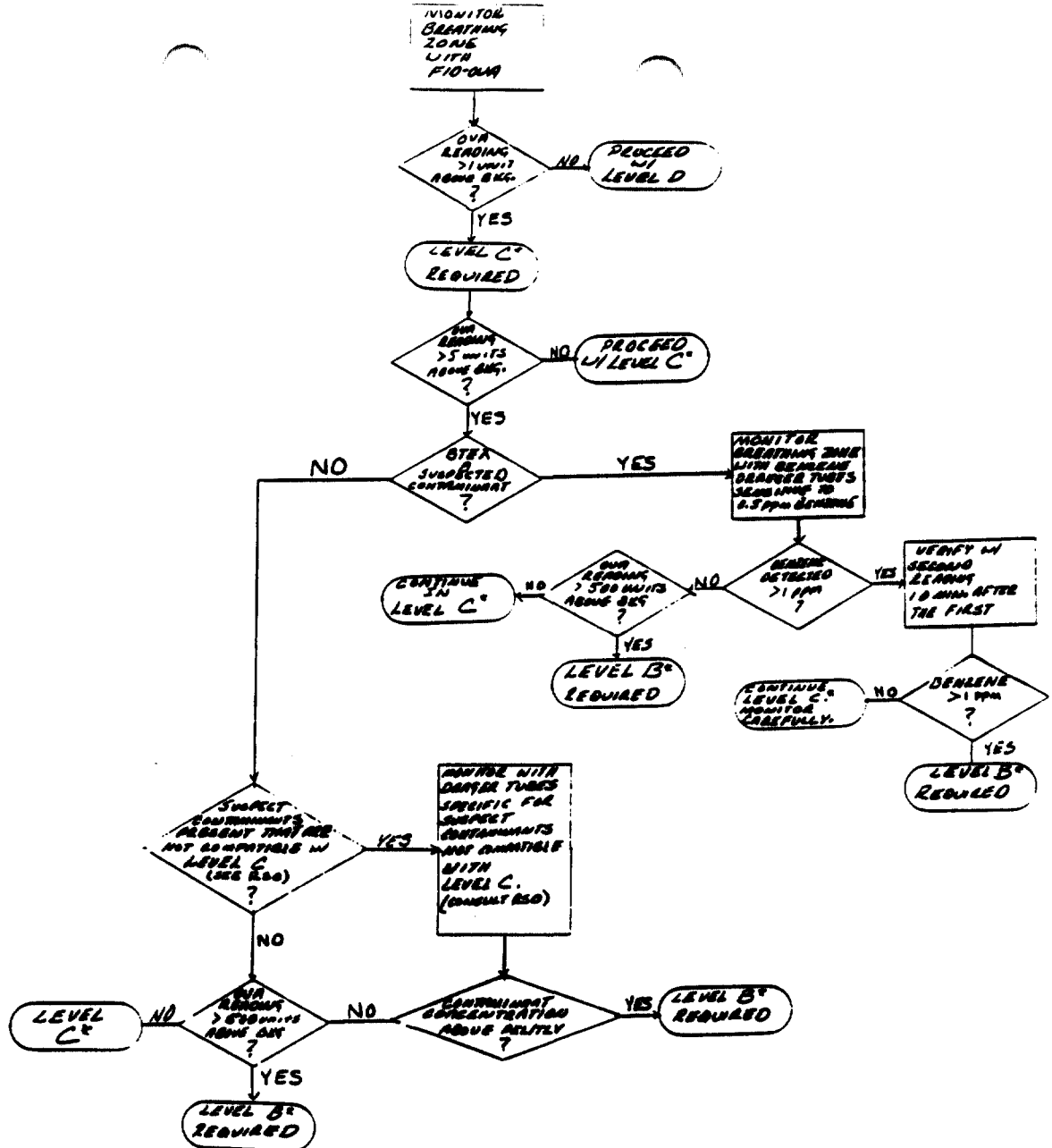
### **ACTION LEVELS FOR ARCS PA, SI, AND ESI FIELD WORK AT INCOMPLETELY CHARACTERIZED SITES**

## **PARTICULATE ACTION LEVELS**

**THIS ACTION LEVEL MAY ONLY BE USED IF:**

- 1) CONCENTRATION OF KNOWN CONTAMINANTS IN SOIL IS UNDETERMINED, AND**
- 2) 1/2(PEL/TLV) OF SUSPECTED CONTAMINANTS IN THE SOIL IS GREATER THAN THE 1/2(NUISANCE DUST LIMIT) VALUE OF 2.5 MG/KG.**

**\*REQUIRES THAT AN SHSC CERTIFIED IN THE APPROPRIATE LEVEL OF PROTECTION BE PRESENT**



## ACTION LEVELS FOR ARCS PA, SI, AND ESI FIELD WORK AT INCOMPLETELY CHARACTERIZED SITES

# ORGANIC VAPOR ACTION LEVELS

THESE ACTION LEVELS REPRESENT A CONSERVATIVE APPROACH FOR SITES IN WHICH ORGANIC VAPOR HAZARDS HAVE BEEN INCOMPLETELY DEFINED.

\*REQUIRES THAT AN SHSC CERTIFIED IN THE APPROPRIATE LEVEL OF PROTECTION BE PRESENT

Additional action levels include the following:

NOTE: THE BENZENE PROTOCOL IS IMPLEMENTED IN  
THIS HASP AS PART OF THE DECISION TREE FOR  
ORGANIC VAPOR ACTION LEVELS - SEE PAGE 17C.

~~Refer to Benzene Protocol which is attached to the HASP as the next page.~~

## 2. Description of Levels

Task(s)	1 (Recon) Level D	2a (Sampling) Level D	2b, c, d, e (Sampling) Level D
Head Eye & Face	<del>(X) Hardhat</del> <sup>on</sup> <del>(X) Safety Glasses or goggles</del>	<del>(X) Hardhat</del> (X) Safety Glasses or goggles	(X) Hardhat (X) Safety Glasses or goggles
Hearing Arms & Legs Only	None None	None None	None None
Whole Body	<del>(X) Coveralls</del>	(X) Tyvek	(X) Saranex
Hand - gloves - gloves	<del>(X) Latex</del>	(X) Latex (X) Nitrile	(X) Latex (X) Nitrile
Foot - boots - boots	(X) Steel Toe Boots <del>(X) Boot covers</del>	(X) Steel Toe Boots (X) Boot covers	(X) Steel Toe Boots (X) Boot covers

Task(s)	2a (Sampling) Level C	2b, c, d, e (Sampling) Level C
Head	(X) Hardhat	(X) Hardhat
Eye & Face		
Hearing		
Arms & Legs Only		
Whole body apron	(X) Tyvek	(X) Saranex
Hand - gloves	(X) Latex	(X) Latex
- gloves	(X) Nitrile	(X) Nitrile
- gloves		
Foot - boots	(X) Steel-toe Boots	(X) Steel-toe Boots
- boots	(X) Boot covers	(X) Boot covers
- boots		
Full Face HALF FACE	(X) MSA Ultra-twin	(X) MSA Ultra-twin
Cart./Canister Type C	(X) GMC-H, HEPA	(X) GMC-H, HEPA
SAR - Airline/		
SCBA		
Comb. Airline/SCBA		
Cascade Syst		
Compressor		
Fall Protection		
Floatation		
Foot - boots		

**Amendments to Equipment/PPE Requirements:**



#### IV. Site or Project Hazard Monitoring Program

##### A. Direct Reading Air Monitoring Instruments

##### 1. Instrument Selection & Initial Check Road

	No.	Task No.(s)	Instrument checked upon receipt	Initials
OGI-	( )			
O <sub>2</sub>	( )			
OGI/O <sub>2</sub> -	( )			
CGI/O <sub>2</sub> /tox-PPM,H <sub>2</sub> S,H <sub>2</sub> S/CO	( )			
RAD-GM	( )	<del>1 - Site Reconnaissance</del>	<i>DGW</i>	
-NaI	( )			
-ZnS	( )			
Other _____	( )			
PID -HNU 10.2	( )			
-HNU 11.7	( )			
-HNU 9.5,	( )			
-PHOTOVAC, TMA, OTHER	( )			
FID -FOX-128	(1)	An FID - OVA will be used for all Tasks		
-FOX 128GC	( )			
-Health, Aid, Other _____	( )			
RAM, Mini-RAM, Other _____	( )			
MONITOX-HCN	( )			
H <sub>2</sub> S	( )			
COCL,	( )			
SO <sub>2</sub>	( )			
Other _____	( )			
Bio-Aerosol Monitor	( )			
Detector Tubes	(X)	All Tasks as required by monitoring/upgrade protocols		
Pump - MSA, Drager, Sensidyne	(1)			
Tubes(No.)/type				
Tubes(No.)/type	(X)	Benzene (0.5/a)		
	(X)	<del>Vinyl Chloride</del> <i>DGW</i>		

##### Reporting Format

☒ 1. Field logbook.
 ☐ 2. Field data sheets.
 ☐ 3. Air monitoring log
 ☐ 4. Trip report.
 ☐ 5. Other.

(To be Completed in  
the Field Logbook)

Instrument Mfg. Model, Eqp.ID.No.	Date	Time	Calib Material	Calib. Method Mfg.'s	Other	Initial Setting & Reading	Final Setting & Reading	Calibs. Initials

C. Site Air Monitoring Program

Air Monitoring Instrument: **FID - FOXBORO OVA**

Air Monitoring Frequency

Tasks

- ☐ 1. Periodically  
☐ 2. Periodically  
☒ 3. Continuous  
☐ 4. Other:

All

Monitoring Locations

- ☒ 1. Upwind/downwind of site activities  
☒ 2. Near residents, etc.  
☒ 3. Key site activity locations:

All (periodically)  
Task 1

- ☒ decon area  
☒ staging area  
☐ excavation area  
☐ field lab area  
☐ storage tanks  
☐ lagoons  
☐ drums

All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)

- ☐ 4. Fixed stations

☒ 5. Other: Monitor in breathing zone during reconnaissance and site evaluation, and at each sample station immediately prior to and during sampling. Use of detector tubes may be required in conjunction with the use of the OVA.

Air Monitoring Instrument: **DRAGER PUMP WITH BENZENE COLORMETRIC TUBES.**

Air Monitoring Frequency

Tasks

- ☐ 1. Periodically  
☐ 2. Periodically (unless dressed in Level C)  
☐ 3. Continuous  
☒ 4. Other: SEE DECISION TREE, PAGE 17C

~~All (periodically)~~ D&W  
 ALL

Monitoring Locations

- ☐ 1. Upwind/downwind of site activities  
☐ 2. Near residents, etc.  
☐ 3. Key site activity locations:

All (periodically)  
Task 1

- ☐ decon area  
☐ staging area  
☐ excavation area  
☐ field lab area  
☐ storage tanks  
☐ lagoon  
☐ drums

All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)  
 All (periodically)

- ☐ 4. Fixed stations

☒ 5. Other: If specified for project, monitor in breathing zone during reconnaissance and site evaluation, and at each sample location immediately prior to and during sampling.

#### **D. Action Levels**

- |      |                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Explosive atmosphere:<br>Action Level<br>< 10% LEL<br>10%-25 % LEL<br><br>> 25 % LEL                                                                                                                                           | Task<br>Action<br>Continue investigation<br>Continue on-site monitoring with extreme caution as higher levels are encountered.<br>Explosion hazard. Withdraw from area immediately.                                                                                                                                                                                                                                            |
| 2.   | Oxygen:<br>Action Level<br>< 19.5 %<br><br>19.5 %-25 %<br><br>> 25 %                                                                                                                                                           | Task<br>Action<br>Monitor wearing SCBA.<br>NOTE: Combustible gas readings may not be valid in atmospheres with < 19.5 % oxygen.<br>Continue investigation with caution, as Oxygen levels > 21 % require extreme caution. Other than normal level may be due to presence of other substances.<br>Fire hazard potential. Stop work and consult a fire safety specialist.                                                         |
| X 3. | <sup>DFW</sup> Radiation:<br><br>Action Level<br>3 x BKG - < 2 mr/hr<br><br><br><br><br><br><br><br><br><br><div style="border: 1px solid black; padding: 2px; width: fit-content;">             &gt; 2 mr/hr           </div> | <sup>DFW</sup><br><del>Task 1 (None Suspected)</del><br><br>Action:<br>Radiation above background levels (normally 0.01-0.02 mR/hr) <sup>s</sup> signifies possible source(s) of radiation present.<br><br>Continue investigation with caution. Perform thorough monitoring. Consult with a health physicist.<br>Potential radiation hazard. Evacuate site. Continue investigation only upon the advice of a health physicist. |
| X 4. | Organic gases and vapors.                                                                                                                                                                                                      | <sup>ALL TASKS</sup><br>See Page 17 and Benzene Protocol attached                                                                                                                                                                                                                                                                                                                                                              |
| 5.   | Inorganic gases and vapors:<br>Action Level<br>Depends on chemical                                                                                                                                                             | Action: Consult standard reference manuals for air concentration/toxicity data. Action level depends on PEL/REL/TLV. If required miniRAM action levels are shown at bottom of page. ON PAGE 17b                                                                                                                                                                                                                                |

The Action Levels, if not defined by regulation, are some percent (usually 50%) of the applicable PEL/REL/TLV. That number must also be adjusted to account for instrument response factors (See page 7).



STATE OF LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT  
P. O. Box 9180 Bridge City, Louisiana 70096-9180  
(504) 436-9100 Telefax (504) 436-0307



EDWIN W. EDWARDS  
GOVERNOR

December 3, 1993

JUDE W. P. PATIN  
SECRETARY

EPA I.D.NO: LAD985170711

Mr. Walter Helmich  
Superfund Site Assessment  
Hazardous Waste Section (6E-SH)  
USEPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

Re: EPA Site Inspection  
Site Access Request  
West Bank Asbestos Site  
Marrero, Louisiana

Dear Mr. Helmich:

We are in receipt of your December 1, 1993, letter requesting permission to enter property identified on the site location map, which accompanied that letter, for the purpose of taking samples.

Attempts to contact you by telephone on December 3, 1993, to discuss the matter were unsuccessful. The site in question appears to be bounded on north by La 18, on the east by La. 45, on the south by U.S.90 B, and on the west by La. 18 Spur. All four (4) of those routes are state highways. There is no other property within the aforementioned boundaries which is under the control or jurisdiction of this Department. While all four (4) of the state routes listed are controlled, operated, and maintained, by The Louisiana Department of Transportation, I cannot say with certainty that this Department owns in fee all of the property which those highways occupy. In fact, based on a previous investigation by this Department's Real Estate Section, I do know that at least part of La. 18 does not occupy property owned by this Department.

In cases where the Department of Transportation does not own the highway right-of-way in fee, Louisiana Revised Statutes Title 48:220.1 provides that after a highway has been in place for three (3) years, there is vested in The Department of Transportation a right-of-way servitude for the highway. That servitude does not, however, affect title for the soil beneath the highway or any minerals under the highway.

Mr. Walter Helmich  
December 3, 1993  
Page Two

While we have no objection to the EPA taking samples from the servitude for the highways in question, I do not know if the existence of the servitude gives me the authority to authorize such an activity. You may, therefore, consider this letter your authority to enter onto highway right-of-way or highway servitude in the aforementioned areas but only to the extent that I have the authority to grant such permission. In addition, anytime your activities will, in any way, affect traffic on the highway, you must provide traffic control in accordance with the Manual on Uniform Traffic Control Devices promulgated by the U.S. Department of Transportation Federal Highway Administration. Encroachment on the travelled portion of any of the highways will not be permitted during peak traffic hours.

We will be pleased to work with you and your contractor to coordinate your activities and the attendant traffic control to minimize inconvenience to the motorist and to expedite the work you must do. We do wish to receive a portion of the samples taken from the highway right-of-way. We would like, however, to have a copy of the report as it pertains to the highways in question, particularly if any hazardous substances are found.

Very truly yours,

JOHN E. EVANCO  
DISTRICT ENGINEER ADMINISTRATOR

By:



ROBERT P. ROTH, JR.  
DISTRICT MAINTENANCE ENGINEER

JEE/RPR/dp

### **SECTION 3**

#### **EXPOSURE AND MIGRATION PATHWAY CHARACTERISTICS**

Information regarding the groundwater, surface water, soil exposure and air pathways are presented in the following sections. Sampling and non-sampling data collected to-date are addressed. Known data gaps are identified at the end of the section.

#### **3.1 GROUNDWATER PATHWAY**

Available information concerning the groundwater pathway, one of the primary routes of potential hazardous substance migration and exposure, is summarized in the following sections.

##### **3.1.1 Hydrogeologic Description**

The West Bank Site is located on the Quaternary-age alluvium which was deposited by the Mississippi River. The alluvium consists of an alternating series of lenticular clay and sand beds which form four aerially extensive aquifers: the Gramercy, Norco, Gonzales-New Orleans, and 1200-foot Aquifers, as well as locally developed "shallow" aquifers. All but the shallow aquifers are overlain by thick beds of clay which act as confining units (Reference 5).

##### **3.1.2 Likelihood to Release**

A release to groundwater has not been documented at the site. A release is not suspected based on the type and state of deposition of the potential HWSA present at the site.

##### **3.1.3 Groundwater Pathway Targets**

Groundwater pathway targets include the population being provided with drinking water from wells located near the site, Well Head Protection Areas (WHPAs) and resources relying on groundwater.

No public drinking water wells are located within 4 miles of the site (Reference 6). The City of New Orleans, Jefferson Parish, and other surrounding communities receive potable water from intakes located on the Mississippi River (Reference 7).

No Well Head Protection Areas (WHPAs) have been identified.

#### **3.2 SURFACE WATER PATHWAY**

Available information concerning the surface water pathway is summarized in the following sections.

### **3.2.1 Hydrologic Setting**

The West Bank Site lies in the Barataria Basin. According to the Louisiana Water Quality Standards (Louisiana Administrative Code, Title 33, Chapter 11), the designated uses for this basin include primary and secondary contact, fish, and wildlife propagation.

Runoff from the site is directed toward and into the Avenue D underground canal which is located approximately 1200 feet east of the site. The Avenue D canal discharges into Patriot Canal (which is a perennially flowing open ditch) approximately 1 mile south of the site. Water continues in Patriot Canal trending approximately 1.3 miles in an easterly direction until it reaches the pumping station at the junction of Patriot Canal and the Intracoastal Waterway (Harvey Canal No. 1). Water then discharges into the Bayou Barataria and eventually the Gulf of Mexico (approximately 17 miles downstream) (Reference 8).

### **3.2.2 Likelihood to Release**

Based on the information presently available, a release to surface water has not been documented. The only potential HWSA identified at the site, which consists of ACM identified in various driveways and right-of-ways throughout the site, is not likely to enter perennially flowing water via overland flow based on the distance to surface water (approximately 1.2 miles) and the state of deposition (asphalt-like) of the ACM onsite.

### **3.2.3 Surface Water Pathway Targets**

Surface water pathway targets include fisheries, drinking water intakes, sensitive environments, and resources that rely on surface water. Based on information currently available, targets that would be susceptible to onsite contamination would be the canals and waterways receiving discharges from the Avenue D underground canal.

## **3.3 SOIL EXPOSURE**

Available information concerning the soil exposure threat is provided in the following sections.

### **3.3.1 Surficial Conditions**

The site is located on the soils of the Vacherie series. This soil series consists of gently undulating, somewhat poorly drained, very slowly permeable soils. These soils formed in loamy alluvium over clayey alluvium (Reference 9). The site has mostly been improved with streets, houses, commercial developments, and schools.

### **3.3.2 Likelihood of Exposure**

Based on observations made during the site reconnaissance, the likelihood of exposure to contaminants associated with the potential HWSA at the site is small due to the ACM being contained in or covered with an asphalt-like material or concrete. However, the potential for exposure exists if the concrete or asphalt deteriorates.



### **3.3.3 Soil Exposure Targets**

The site consists of residential neighborhoods and several schools. The population within 0 to 0.25 mile of the site is reported to be approximately 8,000 people.

No terrestrial sensitive environments have been identified.

## **3.4 AIR PATHWAY**

Available information concerning the air pathway is presented in the following sections.

### **3.4.1 Atmospheric Conditions**

Information concerning the weather conditions and patterns in the site vicinity have not been identified at this point.

### **3.4.2 Likelihood to Release**

Based on available information, a release to air has not been documented. A significant release to air is possible but does not seem likely based on the condition of the potential HWSA present at the site and previous sampling analytical results.

### **3.4.3 Air Pathway Targets**

Potential targets of the air pathway include the nearby population living within four miles of the sites as well as any sensitive environments in the area. These targets have been described in the previous pathways.

## **3.5 DATA GAPS**

Based on review of the background information available and observations made during the site reconnaissance, the following major data gaps have been identified for the site:

- The documentation of a release of asbestos fibers to the air pathway, and
- The number of people residing onsite and susceptible to airborne asbestos fibers.

## **SECTION 4**

### **SAMPLING VISIT ACTIVITIES**

The activities planned for the SI sampling visit are outlined in this section of the TWP. The sampling strategy presented is based on the operational history, known source waste characteristics, the probable pathways of contaminant migration and the likely targets related to the site. The SI field activities will focus primarily on onsite sampling to document and characterize hazardous waste sources at the site and to identify observed contamination or releases.

WESTON will complete air sampling activities as part of the site SI. The specific tasks that will be performed during the sampling visit are described in Sections 4.2, 4.3, and 4.4. It is expected that the tasks will be completed in the order outlined in these sections. However, some tasks may overlap with others. General information for each task is provided as instructions to guide the field team.

It is important to note that the intent of the sampling mission is to sample what appears to be the most contaminated materials in the areas targeted for sampling. Based on the results of previous investigations at the site and access (to be obtained just prior to sampling) to residential properties, WESTON will select locations for sampling that appear to be those most likely to provide positive evidence of the presence of hazardous substances onsite.

#### **4.1 FIELD PERSONNEL**

WESTON plans for a field team consisting of four personnel to complete the tasks described in the following sections. The anticipated personnel, along with their respective project roles and responsibilities, are identified in Table 4-1.

#### **4.2 MOBILIZATION TASKS**

The tasks which the WESTON field team generally will complete prior to sampling are described in this section.

##### **4.2.1 Task 1 - Mobilization**

The WESTON field team will mobilize from the WESTON Regional Equipment Stores (RES) warehouse in Houston, Texas. One or two team members will load equipment for the SI sampling visit in a van, quality checking the equipment in the process. An equipment checklist will be used to verify that the necessary sampling equipment is included in the mobilization.

As part of the mobilization effort, the field team will assemble the required sample containers and equipment prior to leaving for the site, as time permits. The sample jars, sample tags, sample numbers and custody seals needed for each sample station will be a two gallon plastic

**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**TABLE 4-1**

**ANTICIPATED PROJECT PERSONNEL**

<b>NAME</b>	<b>TITLE</b>	<b>ROLES</b>	<b>PROJECT RESPONSIBILITIES</b>
Jeff Wormser	Associate Engineer	Project Team Leader	<ul style="list-style-type: none"><li>● Project Coordination from the WESTON office.</li></ul>
Dennis Hayes	Associate Geologist	Field Team Leader, and Site Safety Officer	<ul style="list-style-type: none"><li>● Implementation of the Task Work Plan and Health and Safety Plan in the field, and final sample location selection.</li><li>● Sampling and safety oversight and quality control.</li><li>● Logbook documentation and photography.</li><li>● Public relations and client interactions.</li><li>● Sample management.</li></ul>
Peter Rung	Assistant Geologist I	Sampler	<ul style="list-style-type: none"><li>● Collection of samples.</li><li>● Equipment management.</li><li>● Sample documentation, packaging, and shipping.</li><li>● Mobilization/Demobilization.</li></ul>
Bryan Weise	Technician	Assistant Sampler	<ul style="list-style-type: none"><li>● Air monitoring/monitoring equipment calibration.</li><li>● Collection of samples.</li><li>● Equipment management and decontamination.</li><li>● Mobilization/Demobilization.</li></ul>
Diane Williams	Assistant Geologist I	Sample Manager	<ul style="list-style-type: none"><li>● Sample documentation, packaging, and shipping.</li></ul>

ziplock bag, which will be sealed and packed in a cooler. The sample station number will be labelled in ink on each 2-gallon bag and on the top of each sample container lid. This process will facilitate sampling efforts once the field work begins. When the required sampling equipment has been loaded, one or two field team members will drive the equipment van to the site. Depending on the distance from WESTON's office to the site this may be done the day before sampling activities are scheduled or early on the same day. The remaining field team members may drive or fly to the site. The field team generally will meet at their place of lodging, if any, before proceeding to the site. WESTON will inform the EPA Work Assignment Manager (WAM) of the sampling mission and its final schedule two weeks before the start date of the field work.

Once at the site, the Field Team Leader (FTL) will meet with the site and EPA representative, if present. The access agreement should be shown to the site representative to reconfirm site access. A copy of the Consent for Access form signed by the site representative is included as Appendix A.

As part of initial mobilization reconnaissance activities and before going onsite, the WESTON team will drive the route from the site to the nearest hospital.

#### **4.2.2 Task 2 - Health and Safety Meeting and Protocol**

After arriving at the site and checking in with the site representative, if present, the WESTON field team leader and the Site Health and Safety Coordinator (SHSC) will conduct a meeting to review the technical aspects of the project and discuss the site-specific HASP and related WESTON Standard Operating Procedures (SOPs) with the sampling team. The HASP and related SOPs are provided in this TWP as Appendix B. After this meeting, a copy of the HASP, with the map to the hospital on the first page, will be placed on the dash of the field vehicle designated for emergency use.

The field work for the SI will be conducted in general accordance with the site-specific HASP. The sampling team generally will work with Level-D personal protective clothing and equipment as specified in the HASP, as long as air monitoring results justify this level of protection. The monitoring instruments to be used are specified in the HASP. Depending on the air monitoring results, the sampling team may be required to upgrade to a Level-C personal protection status if one or more of the air monitoring action levels listed in the HASP is met or exceeded.

At the start of each day and as necessary at other times during the sampling visit, the team leader will conduct safety meetings to reiterate site concerns and address any new technical or safety issues.

A designated team member will perform a field calibration check and overall inspection of the monitoring instruments each day prior to sampling.

#### **4.2.3 Task 3 - Initial Sample Location Reconnaissance**

After the safety meeting is conducted, the WESTON FTL will meet with the site representative and any EPA representative present to complete an initial survey of the sample locations indicated in the TWP. This will be done to allow the FTL to become familiar with the area of investigation, verify that sample locations are accessible, and identify potential health and safety concerns at each location. This initial reconnaissance will be conducted from the support zone as much as possible. If entry into a potential exclusion zone area is required for this task, a second WESTON team member will accompany the team leader to perform air monitoring during the reconnaissance.

If a sample location is found to be inaccessible for some reason, alternative sample locations may be chosen in consultation with the WESTON Project Team Leader (PTL). The PTL will communicate alterations in the TWP to the WESTON Site Manager and EPA WAM.

#### **4.2.4 Task 4 - Acquisition of Offsite Access**

Prior to performing sampling activities, the owners of any offsite properties for which sampling has been proposed will be contacted. Unless an EPA representative designated by the WAM to obtain offsite access is present in the field, the WESTON FTL will obtain permission from the owners for WESTON to collect samples from their property. The owners of offsite properties targeted for sampling will be provided with a fact sheet explaining the investigation, if one is available.

If access cannot be obtained at an offsite property targeted for sampling, the WESTON FTL will select an alternate sampling location after consultation with the WESTON PTL who in turn will notify the EPA WAM of any alterations to the TWP.

#### **4.2.5 Task 5 - Command Post Establishment**

After the safety meeting has been held, the WESTON team will establish a command post in an accessible location at the site in an area generally thought to be unimpacted by site operations, if such an area is available. The command post will be located in the support zone in which work may proceed in Level D without continuous air monitoring. Access to the exclusion zone and contaminant reduction zone established around the on-site waste source areas will be controlled through the command post.

The command post will include the following:

- An equipment staging area where equipment can be prepared for usage,
- A decontamination area (as specified in the HASP, Appendix B) where field personnel and equipment can be decontaminated, and
- A sample management area where samples can be labelled, preserved and packaged.

Sampling activities to be performed in offsite areas, if any, will mobilize from the onsite command post.

### **4.3 SAMPLING TASKS**

Field tasks 6 through 12 are associated with the collection of samples and they are described in the following sections. Sample locations are shown in Figure 4-1 and are summarized on Table 4-2 at the end of this section.

#### **4.3.1 Task 6 - Documentation of Field Activities**

The WESTON FTL will document in a logbook the activities performed during the SI sampling visit as well as other significant observations made throughout the duration of the field investigation. The FTL will keep a chronological log of field activities in the logbook. Additionally, the FTL will take photographs to support the observations documented in the logbook.

The documentation recorded in the logbook for each sample location will include:

- Sample station number,
- Sample location (including the address, and the distance and bearing from a fixed reference point),
- Sampling pump flow rate and sampling interval,
- Date and time of sample collection, and
- Conditions around the sample location.

#### **4.3.2 Task 7 - Equipment Decontamination**

WESTON will utilize dedicated sampling equipment for each sample station. Therefore, no equipment decontamination will be required..

#### **4.3.3 Task 8 - Waste Sampling**

WESTON will not collect samples of waste materials such as road materials or driveways because these materials were sampled during previous investigations.

#### **4.3.4 Task 9 - Soil Sampling**

WESTON will not collect any soil samples because of the type of HWSA present at the site and the associated routes of possible exposure from the HWSA.

#### **4.3.5 Task 10 - Surface Water and Bottom Sediment Sampling**

WESTON will not collect surface water or sediment samples as part of the SI because the HWSA is not likely to migrate offsite via overland flow. In addition, the distance to perennially flowing water is approximately 1.2 miles from the site.

#### **4.3.6 Task 11 - Groundwater Sampling**

WESTON will not collect groundwater samples as part of the SI because no drinking water wells have been identified onsite or within 4 miles of the site. The area is provided drinking water from intakes located along the Mississippi River.

#### **4.3.7 Task 12 - Air Sampling**

WESTON will collect 18 air samples as part of the SI to document the presence of airborne asbestos at the site and within 200 feet of onsite residences. Samples will be collected for a period of 4 to 8 hours on air filter cassettes using air sampling pumps. The samples will be analyzed by transmission electron microscopy (TEM) by an independent laboratory.

The site will be divided into three sections for sampling purposes, and one section will be sampled per day. A total of six samples will be collected each day. Five samples will be collected from five different locations (most likely individually owned properties such as residences) within a section and one sample will be collected offsite and within 1 mile from the site to establish background levels for each day of sampling. The sampling locations will be established based on the observance of suspected ACM and the ability to obtain access to the areas where suspected ACM is exposed.

#### **4.3.8 Task 13 - Sample Management**

WESTON will manage the samples collected during the SI in a manner generally consistent with EPA and WESTON guidelines. Specific guidelines are provided in the following subsections.

##### **4.3.8.1 Sample Documentation**

Each sample will be appropriately documented and identified using the appropriate labels, tags, and forms. The following guidelines will be used:

- Each sample station will receive a set of sample numbers.
- Each sampling media for a sample station will receive a sample number sticker, a sample tag, and a custody seal.
- The sample information will be written on the appropriate Traffic Reports/Chain-of-Custody forms which will remain with the samples.

#### **4.3.8.2 Sample Packaging**

Once labelling is completed, the sample manager and FTL will review the sample documentation for accuracy before the samples are packaged for shipping. Once this quality assurance check is completed, the samples will be packaged in shipping containers using the following guidelines:

- Each sample will be placed within a ziplock bag which will be sealed.
- The appropriate Traffic Report/Chain-of-Custody forms (laboratory copies only) will be sealed inside a two-gallon plastic bag and taped to the inside of the shipping container.
- The shipping containers will then be closed, and they will be sealed with strapping or packing tape and at least two EPA custody seals (on opposite sides of the cooler). Also, if samples need to be left unattended, the samples will be placed in a shipping container, and the container will be sealed with custody tape and stored in a secured place.

#### **4.3.8.3 Sample Shipping**

When sampling is completed for a given day, the sampling team will ship the samples via Federal Express priority overnight service (at government rate) to the assigned laboratory for analytical testing.

### **4.4 DEMOBILIZATION AND OTHER ACTIVITIES**

The remaining tasks will be completed by the field team after all samples are collected and shipped and after the field team leader acquires the consent of the WESTON PTL or Site Manager.

#### **4.4.1 Task 14 - Demobilization**

Following the completion of all sampling activities, the field team will decontaminate, package and transfer all non-disposable sampling equipment back to the WESTON RES warehouse in Houston, Texas. The command post and decontamination areas will also be dismantled. WESTON will, as possible, leave the site in the same condition it was prior to the investigation.

#### **4.4.2 Task 15 - Decontamination Rinsate Water Disposal or Staging**

It is anticipated that no decontamination rinsate water will be generated during this sampling mission.

#### **4.4.3 Task 16 - Background Information Acquisition**

While in the field, the WESTON FTL and other designated personnel may collect background information needed to close project data gaps, as time allows. Activities may include visiting



city offices to collect local agency file information and to obtain maps, locating water wells in the area or driving along the surface water pathway to visually document fisheries and wetlands. Background research tasks will be assigned to the FTL by the PTL once sampling activities are completed. In general, only one or two of the field team members will be assigned background research tasks if time allows.

#### **4.5 COMMUNITY RELATIONS**

Persons requesting site information from the WESTON field team will be instructed to submit a Freedom of Information Act Request to: Freedom of Information Officer, U.S. EPA Region VI, 1445 Ross Avenue, Dallas, Texas 75202-2733. Reporters will be instructed to contact the EPA's Office of External Affairs at (214)-665-2200 or contact the EPA representative in the field if one is present. The WESTON FTL will notify the WESTON PTL or Site Manager immediately if reporters are present at the site. The WESTON personnel in the office, in turn, will notify the EPA WAM.

#### **4.6 FIELD FOLLOW-UP MEMORANDUM**

As stated in WESTON's Generic Site Inspection Work Plan (Document Control No. 4603-23-0008) dated 15 August 1991, WESTON will submit a memorandum to the WAM describing any alterations that were made to the TWP in the field. This memorandum will also serve to notify the WAM of any conditions observed at the site that appeared to represent an imminent threat.

#### **4.7 REPORT PREPARATION**

After receiving analytical data for the site from EPA, WESTON will prepare the final report for the SI. The report will contain information as specified in WESTON's Generic Site Inspection Work Plan and by regional guidance. The report format will include the following:

- An Introduction Section describing the background and purpose of the investigation;
- A Site Characteristics Section describing the site location, operating history, source waste characteristics and site concerns;
- A Sampling Activities Section discussing the field activities completed during the SI;
- Individual sections for the groundwater, surface water, soil exposure and air pathways describing the environmental conditions at the site, the likelihood of a release, targets, and relevant analytical data; and
- A Summary and Conclusions Section discussing the major site concerns.

## **SECTION 5 PROJECT INFORMATION**

This section outlines basic project management information for the SI. Details concerning key personnel and the project schedule are provided. Reference should be made to WESTON's Generic Site Inspection Work Plan (WESTON Document Control Number 4603-23-0008) for more detailed information concerning WESTON's project management plan.

### **5.1 KEY PROJECT PERSONNEL**

The anticipated key project personnel for this SI assignment are shown on Figure 5-1.

### **5.2 PROJECT SCHEDULE**

The overall project schedule is summarized in Table 5-1.

### **5.3 SAMPLING VISIT SCHEDULE**

- **Saturday**
  - 10:00 am Team arrives onsite and begins obtaining access to privately owned properties for future sampling.
  - 12:00 pm Lunch.
  - 1:00 pm Team continues to obtain site access.
  - 5:00 pm Team departs site for day.
- **Sunday**
  - 10:00 am Team arrives onsite and begins obtaining access to privately owned properties for future sampling.
  - 12:00 pm Lunch.
  - 1:00 pm Team continues to obtain site access.
  - 5:00 pm Team departs site for day.
- **Monday**
  - 8:00 am Team arrives onsite. Team conducts site health and safety meeting. Team sets up sampling equipment in the first section and background location.

9:00 am Team collects air samples.

5:00 pm Team decons equipment, departs site for day, and ships samples.

- Tuesday

8:00 am Team arrives onsite. Team sets up sampling equipment in the second section and background location.

9:00 am Team collects air samples.

5:00 pm Team decons equipment, departs site for day, and ships samples.

- Wednesday

8:00 am Team arrives onsite. Team sets up sampling equipment in the third section and background location.

9:00 am Team collects air samples.

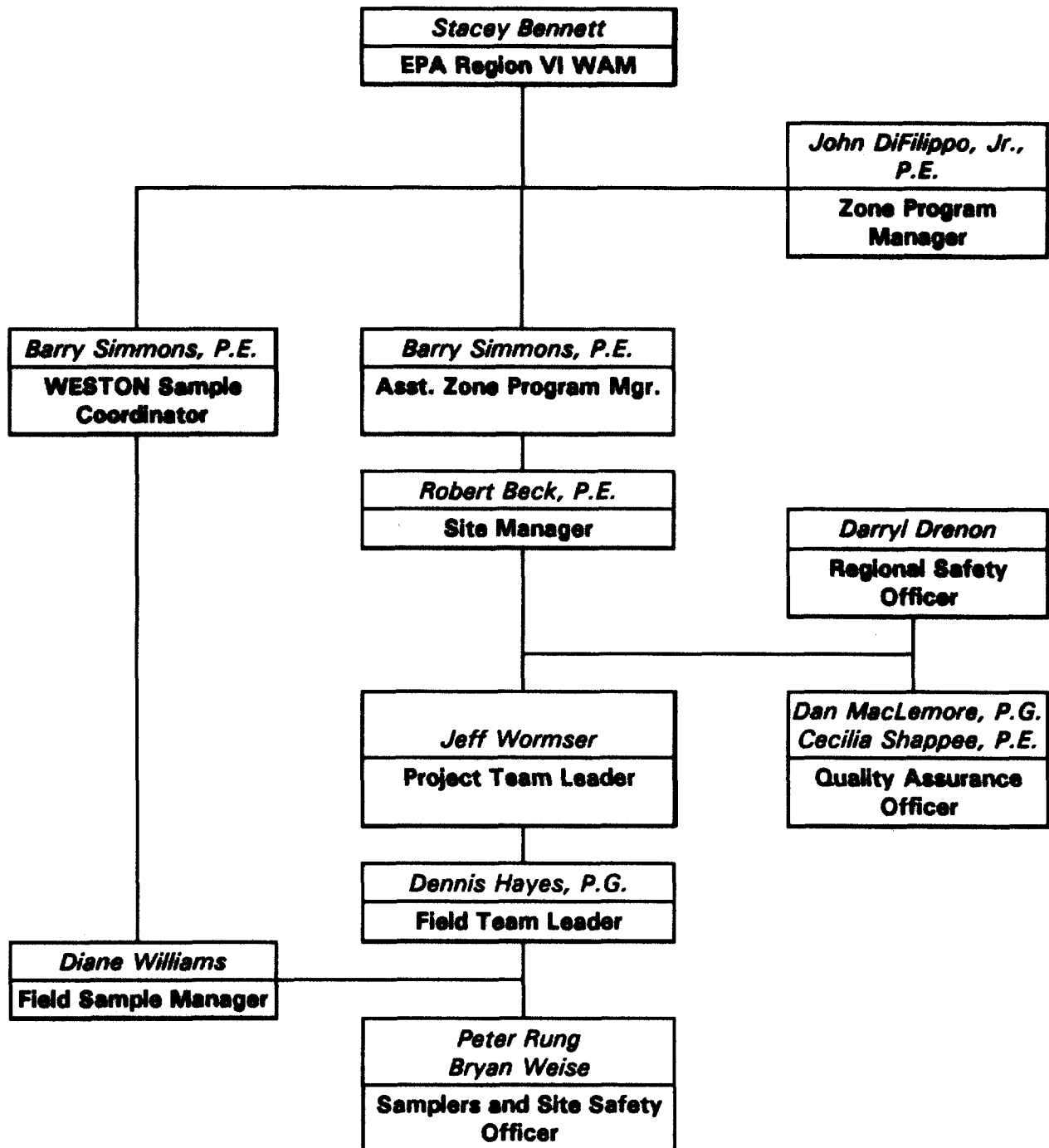
5:00 pm Team decons equipment, departs site day, and ships samples.

#### **5.4 IMPORTANT PHONE NUMBERS**

Important phone numbers that may be needed by the field team leader include the following:

- Local Hospital: (504) 347-5511
- WESTON 24-hr Emergency No.: 1-800-229-3674
- WESTON Office: (713) 621-1620
- WESTON RES: (713) 957-3267
- EPA WAM (Stacey Bennett): (214) 665-8374
- Place of Lodging in Field: (To be determined \_\_\_\_\_)
- Federal Express (National): 1-800-238-5355

**FIGURE 5-1  
ANTICIPATED KEY PERSONNEL**



**SITE INSPECTION  
TASK WORK PLAN**

**WEST BANK ASBESTOS  
MARRERO, JEFFERSON PARISH, LOUISIANA  
EPA CERCLA ID NO. LAD985170711**

**TABLE 5-1**

**PROJECT SCHEDULE  
(1994-1995)**

TARGET MILESTONES	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR
SITE RECONNAISSANCE												
WORK PLAN PREPARATION AND SUBMITTAL												
WORK PLAN REVIEW/APPROVAL BY EPA												
LABORATORY PROCURED												
EQUIPMENT MOBILIZATION												
FIELD SAMPLING VISIT												
DATA ANALYSIS												
DATA VALIDATION												
REPORT WRITING												
REPORT QUALITY ASSURANCE												
REPORT SUBMISSION												

## **SECTION 6 REFERENCE LIST**

1. Field Logbook, Roy F. Weston, Inc., 10 February 1994.
2. "Site Assessment Report for Westbank Asbestos, Marrero, Jefferson Parish, Louisiana", U.S. EPA Technical Assistance Team, 27 September 1991.
3. Memorandum: Sampling of Westbank Area, from Todd Thibodeaux, Environmental Quality Specialist for the Louisiana Department of Environmental Quality (LDEQ), to Harold Ethridge, Acting Administrator of the LDEQ, 21 January 1990.
4. "Preliminary Assessment Report", ICF Technology, Inc., 16 October 1992.
5. "Geohydrology, Water Quality, and Effects of Pumpage on the New Orleans Aquifer System, Northern Jefferson Parish, Louisiana", U.S. Geological Survey in cooperation with the Jefferson Parish Department of Water, 1988.
6. Computerized Listing of Registered Water Wells, Louisiana Department of Transportation and Development, 9 February 1994.
7. Record of Communication, Larry K. Landry, Field Inspection Team (FIT) Chemist, and Wesley Busby, Design Engineer for the Sewage and Water Board of New Orleans, 23 June 1989.
8. Record of Communication, Kim T. Hill, Environmental Engineer of ICF Technology, Inc., and Arthur Lefebvre of Jefferson Parish Public Works, 4 February 1992.
9. Soil Survey of Jefferson Parish, Louisiana, U.S. Department of Agriculture, Soil Conservation Service, January 1983.

**APPENDIX C**  
**SITE RECONNAISSANCE CHECKLIST**

**SITE RECONNAISSANCE CHECKLIST  
GENERAL SITE INFORMATION WORKSHEET**

---

**I. SITE INSPECTION INFORMATION**

1. \_\_\_ Date and time of the inspection: \_\_\_/\_\_\_/\_\_\_ at \_\_\_:\_\_\_ a.m/p.m
2. \_\_\_ WESTON personnel performing the inspection:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
3. \_\_\_ Names of site owner or representatives present
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
4. \_\_\_ Names of regulatory officials present:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
5. \_\_\_ Weather conditions during inspection:
  - a. Temperature: \_\_\_ degrees F
  - b. Cloud Cover: \_\_\_ percent
  - c. Rain/snow: \_\_\_ amount

**II. GENERAL SITE INFORMATION**

1. \_\_\_ Official site name / CERCLIS ID: \_\_\_\_\_ (TXD \_\_\_\_\_)
2. \_\_\_ Accurate street address: \_\_\_\_\_
3. \_\_\_ City and State: \_\_\_\_\_
4. \_\_\_ List current owner(s) name(s) and address(es): \_\_\_\_\_
5. \_\_\_ List past site owners and addressess, if possible: \_\_\_\_\_
5. \_\_\_ Indicate ownership type ("C" for current, "P" for past)
  - a. \_\_\_ Private
  - b. \_\_\_ Municipal
  - c. \_\_\_ County
  - d. \_\_\_ State
  - e. \_\_\_ Unknown
  - f. \_\_\_ Federal
  - g. \_\_\_ DOD
  - h. \_\_\_ DOE
  - i. \_\_\_ Indian
  - i. \_\_\_ Other (describe): \_\_\_\_\_
- B. \_\_\_ Verify site location on a topo map, indicating the reason for any discrepancies below: \_\_\_\_\_



**SITE RECONNAISSANCE CHECKLIST  
SITE FEATURES WORKSHEET**

**III. SITE FEATURES**

1. ☐ Draw a sketch map of the site to show the location of important site features
  
2. ☐ Describe site access features:
  - a. Locations where the site can be accessed: \_\_\_\_\_
  - b. Major roads leading to site: \_\_\_\_\_
  - c. On-site roads / paths and their condition: \_\_\_\_\_
  - d. Location/condition of barricades impeding site access: \_\_\_\_\_
  
3. ☐ List current/historic site occupants and landuse:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  
4. ☐ Indicate the nature of the site occupant(s) (put corresponding letter from above beside type below):
 

a. <input type="checkbox"/> Lumber or wood products	l. <input type="checkbox"/> Retail
b. <input type="checkbox"/> Inorganic chemicals	m. <input type="checkbox"/> Recycling
c. <input type="checkbox"/> Plastics or rubber products	n. <input type="checkbox"/> Junk/salvage yard
d. <input type="checkbox"/> Paints or varnishes	o. <input type="checkbox"/> Municipal landfill
e. <input type="checkbox"/> Industrial organic chemicals	p. <input type="checkbox"/> DOD
f. <input type="checkbox"/> Agricultural chemicals	q. <input type="checkbox"/> DOE
g. <input type="checkbox"/> Misc. chemical products	r. <input type="checkbox"/> DOI
h. <input type="checkbox"/> Fabricated structural metal products	s. <input type="checkbox"/> Other federal facility: _____
i. <input type="checkbox"/> Electronic equipment	t. <input type="checkbox"/> RCRA TSD site: _____
j. <input type="checkbox"/> Other manufacturing: _____	u. <input type="checkbox"/> RCRA generator: _____
k. <input type="checkbox"/> Mining and other exploration: _____	v. <input type="checkbox"/> Other RCRA: _____
	x. <input type="checkbox"/> Other: _____
  
5. ☐ Status:      a. ☐ Active      b. ☐ Inactive or left site
  
6. ☐ Describe buildings or other structures (occupant, size, location, use)
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  
7. ☐ Locate and describe the following:
  - a. ☐ Municipal water supply hook ups, if any \_\_\_\_\_
  - b. ☐ Storm drain Inlets or discharge points \_\_\_\_\_
  - c. ☐ Sanitary sewers \_\_\_\_\_
  - d. ☐ Parking lots and other impervious surfaces \_\_\_\_\_
  - e. ☐ Water wells \_\_\_\_\_
  - f. ☐ Oil and gas wells: \_\_\_\_\_
  - g. ☐ Mining activities onsite: \_\_\_\_\_
  - h. ☐ Rail spur locations (usage): \_\_\_\_\_
  - i. ☐ Pipelines (owner/contents): \_\_\_\_\_
  - j. ☐ Other easements: \_\_\_\_\_

**IV. NATURAL SITE FEATURES**

1. ☐ Describe regional and site topography \_\_\_\_\_
2. ☐ Determine the site surface gradient / slope \_\_\_\_\_
3. ☐ Describe site and adjacent property vegetation \_\_\_\_\_
4. ☐ Describe site surface soils (texture, color, structure) \_\_\_\_\_
  
5. ☐ Describe site and local surface geological features (lithology, structures, grain size)
  
6. ☐ Locate and map nearby surface water bodies surface:
  - a. Determine the dimensions and profile of each surface water body
  
  - b. Describe flow rate and direction of flow, if any
  
  - c. Indicate the type surface water usage (fisheries, water intakes)
  
7. ☐ Locate and map any springs, seeps, ponded areas or wetlands
8. ☐ Locate and map any drainage swales or ditches onsite
9. ☐ Determine the direction and destination of site runoff \_\_\_\_\_
10. ☐ List other potentially sensitive environments
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_

**V. OTHER NOTABLE SITE FEATURES**

1. ☐ Describe any other notable site features below:

SITE RECONNAISSANCE CHECKLIST  
SITE OPERATIONAL HISTORY CHECKLIST

**VI. SITE OPERATIONAL HISTORY**

1. \_\_\_\_ Describe the exact types and quantities of wastes stored and generated (what/when):
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  - f. \_\_\_\_\_
2. \_\_\_\_ Determine the locations of historic waste disposal practices onsite (check as source area below):
3. \_\_\_\_ Map and describe historic buildings, storage areas or process areas no longer obvious onsite:
4. \_\_\_\_ Determine the current/historical number of occupants or workers onsite daily \_\_\_\_\_
5. \_\_\_\_ Describe in detail the current/historical processes used onsite:
6. \_\_\_\_ List site environmental related permits (RCRA, TACB, TWC, TRRC, TDH, etc.)
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
7. \_\_\_\_ Get copies of any manifests or other records available
8. Describe other relevant facts concerning site operations:

**SITE RECONNAISSANCE CHECKLIST  
POTENTIAL WASTE SOURCES IDENTIFICATION WORKSHEET**

**A. Check the potential waste sources below which are found onsite:**

1. ☐ Dry wells or injection wells
2. ☐ Ponds, lagoons or other surface impoundment
3. ☐ Landfills
4. ☐ Land treatment or land farming areas
5. ☐ Areas of contaminated soil
6. ☐ Storage tanks or other nondrum containers
7. ☐ Drums or drum-like containers
8. ☐ Incineration areas or burn pits
9. ☐ Piles (Chemical, scrap metals, tailings, etc.)
10. ☐ Ventilation systems
11. ☐ Hydraulic lifts
12. ☐ Pits or sumps
13. ☐ Transformers
14. ☐ Contaminated sediments or surface water with unidentified source
15. ☐ Contaminated groundwater with unidentified source
16. ☐ Other source type (describe: \_\_\_\_\_)
17. ☐ No sources identified

# SITE RECONNAISSANCE CHECKLIST WASTE SOURCE DESCRIPTION WORKSHEET

(Complete one sheet for each source area)

1. ☐ Assign waste source a name for identification: \_\_\_\_\_
2. ☐ Status of source area (closed, inactive, active) \_\_\_\_\_
3. ☐ Locate the source area on a map and describe location: \_\_\_\_\_
4. ☐ Measure the dimensions of the source area: \_\_\_\_\_
5. ☐ Determine the length of time that the source area contained waste: \_\_\_\_\_
6. ☐ Describe the method of source containment and degree of maintenance: \_\_\_\_\_
7. ☐ Describe the method of secondary containment and maintenance: \_\_\_\_\_
8. ☐ Indicate the current and historical contents of source area:
 

a. <input type="checkbox"/> Metals b. <input type="checkbox"/> Inorganics c. <input type="checkbox"/> Organics d. <input type="checkbox"/> Radioactive waste e. <input type="checkbox"/> Pesticides/herbicides f. <input type="checkbox"/> Oily waste g. <input type="checkbox"/> Mining waste h. <input type="checkbox"/> Explosives	i. <input type="checkbox"/> Paints/pigments/dyes j. <input type="checkbox"/> Solvents k. <input type="checkbox"/> Laboratory/hospital waste l. <input type="checkbox"/> Construction/demolition waste m. <input type="checkbox"/> Acids/bases n. <input type="checkbox"/> Municipal/residential type waste o. <input type="checkbox"/> Other (describe) _____
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
9. ☐ Describe the physical state of the waste (check one)
 

a. <input type="checkbox"/> Solid	b. <input type="checkbox"/> Powder
c. <input type="checkbox"/> Liquid	d. <input type="checkbox"/> Sludge
e. <input type="checkbox"/> Gas	
10. ☐ Determine the location of waste generation:
 

a. <input type="checkbox"/> onsite	b. <input type="checkbox"/> offsite (generator): _____
------------------------------------	--------------------------------------------------------
11. ☐ Indicate who authorized waste deposition:
 

a. <input type="checkbox"/> Present owner	c. <input type="checkbox"/> Unauthorized
b. <input type="checkbox"/> Former owner	d. <input type="checkbox"/> Unknown
12. ☐ Assess the accessibility of the source area to the public:
 

a. <input type="checkbox"/> Accessable	b. <input type="checkbox"/> Nonaccessable (why): _____
----------------------------------------	--------------------------------------------------------
13. ☐ Current and historical high level of containment
14. ☐ Method of secondary containment and degree of maintenance
15. ☐ Indicate if there is visual evidence of a release
 

a. <input type="checkbox"/> Discharges or waste streams (Indicate receiving body): _____	
b. <input type="checkbox"/> Leachate outbreak	
c. <input type="checkbox"/> Spill or leak	
d. <input type="checkbox"/> Other type of release (describe): _____	
16. ☐ Indicate if there is visual evidence of contamination around source
 

a. <input type="checkbox"/> Stained/contaminated soil (area): _____	
b. <input type="checkbox"/> No evidence of	
17. ☐ Describe cover over the source area
 

a. <input type="checkbox"/> Engineered cap	
b. <input type="checkbox"/> Buried (w/soil, asphalt, etc.)	
c. <input type="checkbox"/> Other (Roof, tarp, etc.)	
18. ☐ Functioning collection or venting system (describe in detail)
19. ☐ Evidence of biogas release (odors, vapors, FID response)
20. ☐ Describe Vegetation around source area:
 

a. Type and degree of vegetation: _____	
b. Condition of vegetation (stressed/unaffected): _____	

## **VIII OFFSITE SURVEY**

1. \_\_\_\_ Describe and locate \_\_\_\_\_ a map adjacent and nearby sites \_\_\_\_\_ interest:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

2. \_\_\_\_ Map location of public facilities (schools, day care facilities, parks, etc.)

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

3. \_\_\_\_ Determine the location and number of residences within a 1/2 mile radius of the site.

4. \_\_\_\_ Determine the population of workers, schoolchildren, etc in areas near the site

5. \_\_\_\_ List alternative source sites within a four mile radius:

a. Automobile service stations

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

b. Dry cleaners

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

c. Manufacturing/industrial sites

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

d. Rail loading areas

- 1. \_\_\_\_\_

e. Landfills

- 1. \_\_\_\_\_

f. Other sites

- 1. \_\_\_\_\_

6. \_\_\_\_ Locate and describe surface water bodies as follows:

- a. Distance to probable point of entry of a waste from the site
- b. Flow rate and direction of flow
- c. Storm drains discharging into the surface water body
- d. Potential targets along the surface water
- e. Branching in surface water flow path and effect on target
- f. Tidal influence effect on flow
- g. Tributaries with alternative source sites
- h. Drinking water intakes
- i. Fishing or other recreational use recreation

7. \_\_\_\_ Locate and describe water wells in the distance limit, as possible:

- a. Location of well and distance from site
- b. Well owner and population potentially served
- c. Well usage and completion information